the Fourth Industrial Revolution

imagine the unimaginable
“Although we are apart now, we have been together the last 22 years”

JURGENS BEKKER ATTORNEYS

WE CATER TO SERVE THE UNIQUE REQUIREMENTS OF EACH CLIENT AND WE PRIDE OURSELVES IN OUR EXPERTISE AND PASSION FOR VARIOUS AREAS OF LAW.

We specialise in the following:

Commercial and Corporate Law
Family Law
General Litigation & Taxation
Criminal Law
Labour Law
Media Law
Debt Collection Matters
Acting as Correspondents of Record

Celebrating 22 years in business

ALBERTON
Office 3, Gemstone Office Park,
36 Hennie Alberts Street, Brackenhurst,
Alberton
Tel: 010 591 8164
Cell: 072 011 3670
Email: megan@jurgensbekker.co.za

BEDFORDVIEW
22 Plantation Road, Oriol, Bedfordview
Tel: 011 622 5472 / 5445 / 5524 / 5523
Cell: 083 294 9995
Email: jurgens@jurgensbekker.co.za

CAPE TOWN
6th Floor Suclaire Building,
21 Dreyer Street, Claremont,
Cape Town
Tel: 078 989 2937
Cell: 083 601 6544
Email: jurgens@jurgensbekker.co.za

KEMPTON PARK
14 Belgrade Street, Spartan,
Kempton Park
Tel: 010 442 6743
Cell: 072 424 3177
Email: louis@jurgensbekker.co.za

PRETORIA
Suite 203, Waterkloof Gardens,
270 Main Street, Brooklyn,
Pretoria
Tel: 067 011 6837
Cell: 082 776 8650
Email: johnare@jurgensbekker.co.za

www.jurgensbekkerattorneys.co.za
THE NAME BEHIND THE POWER
FOR A BRIGHTER FUTURE

BRAND ENGINEERING SA (PTY) LTD | TEL:+27 21 550 9100 | INFO@BRANDSA.COM | BRANDSA.COM
# CONTENTS

President's Address .................................................................................................................6

OFFICIAL STATE VISIT ...........................................................................................................10
German Chancellor Dr Angela Merkel
Networking dinner .....................................................................................................................12

Financial Report .......................................................................................................................14
Directorate, Senior Council, Honorary Members and Staff .......................................................16
Chamber Organogram ..............................................................................................................17

EVENTS ..................................................................................................................................18
Back-to-Work Braai 2020 ...........................................................................................................18
Golf Day ....................................................................................................................................20
Deutschlandfest .........................................................................................................................22
HOPE Cape Town ....................................................................................................................24

CHAMBER OFFICES ..............................................................................................................30
Cape Town Office: Western and Eastern Cape ..........................................................................30
Representation: State Development Agency of Thuringia in South Africa .........................32
Representation of the Free State of Bavaria in South Africa ..................................................34
Durban Office: KwaZulu-Natal ...............................................................................................36

REGIONAL COORDINATION ...............................................................................................38
Maputo, Mozambique ...............................................................................................................40
Lusaka, Zambia .......................................................................................................................41
Harare, Zimbabwe ....................................................................................................................43
Frankfurt, Germany ..................................................................................................................44
Berlin Liaison Office ..............................................................................................................44

COMPETENCE CENTRES
Industry .......................................................................................................................................46
Mining and Mineral Resources ...............................................................................................50
Sustainable Energy ..................................................................................................................52
Training and CSR ....................................................................................................................53
Water Management ................................................................................................................56
Digitalisation of the water sector ...........................................................................................58

4IR: INTELLIGENCE AMPLIFIED ..........................................................................................60
The Clock is Ticking: South Africa and Digitalisation ..............................................................62
AHK Working Group Industry 4.0 .........................................................................................64
A Series of Fortunate Events .................................................................................................66
FESTO: Customer support for Industry 4.0 .............................................................................70
The road to Industry 4.0: Cybersecurity Check-point ..............................................................72
Plug-and-play digitalisation ....................................................................................................74

SADC COUNTRY REPORTS .................................................................................................77
South Africa ..............................................................................................................................78
Angola .....................................................................................................................................82
Botswana ................................................................................................................................86
Mozambique .............................................................................................................................90
Namibia .....................................................................................................................................94
Zambia .....................................................................................................................................98
Zimbabwe ...............................................................................................................................102

ADVERTISERS
in order of appearance

JURGENS BEKKER ATTORNEYS

BRAND

SIEMENS

FALKE

Lufthansa

Das Auto.

STAHLE

Pepperl+Fuchs

Schaubenburg Systems

KASIGlas

Wagner Systems

Rema Tip Top

Rödl & Partner

BASF

DIE TRIBÜDE

Wagner Systems

Rema Tip Top
Contributing to the sustainable development of the African continent

With intelligently engineered solutions across the Electrification, Automation and Digitalization value chain, Siemens continues to drive economies and enable prosperity across Africa. Shaping societal transformation and creating value for society through innovative technology - That’s ingenuity for life!
I really would have liked to start with last year’s first lines: 2019 has been truly an interesting and important year for South Africa and for German companies in South Africa. However, we have seen a major shift in basically all areas of life and that includes the business environment. Nevertheless, I would like to mention a few important developments.

In 2019 German–South African business relations had a successful year. The total trade volume came to 18,926 billion Euro. For the first time since 2001 South Africa had a surplus in trade with Germany. Exports from South Africa to Germany came to 9,580 billion Euro while German exports to South Africa amounted to 9,346 billion Euro. Although trade figures were good, the paralysis in the implementation of the national infrastructure development plans lagged behind.

The fight against corruption, graft and nepotism is one of the most urgent priorities for the government. Those responsible for the loss of state funds, must be held responsible. These funds must be recovered and used for the implementation of the economic recovery. This is now more necessary than ever before, while the country and the world face the consequences of the Covid-19 pandemic.

The German business community remains committed to working closely with our South African partners in creating a better economic environment.

CHAMBER MEMBERSHIP
Our membership stays around 600 members in total. We have now (31 May 2019) 584 fully paid up members and the remainder consist of strategic partners, which are non-paying and non-voting members.

EVENTS
The Chamber hosted around 50 events over the last 12 months, with close to 3,000 participants. The events were workshops, seminars etc. and social events such as the Ball of Hope in Cape Town. Since the lockdown on 27 March 2020 the Chamber has changed the formats of events to include webinars, virtual meetings and business partner searches.

The Western Cape representative office of our Chamber celebrates in 2020 its 20th anniversary. Although we were not able to host the Ball of Hope, due to the restrictions on gatherings, we will make up for this in due course.

REPRESENTATIONS
The Chamber represents the Free State of Bavaria since 2007. Highlight in 2019 was the visit of State Minister Dr Florian Herrmann. The Chamber arranged for a get together with Bavarian companies as well as their SA partners.

FREE STATE OF THURINGIA
The State Development Agency of Thuringia has been represented through the Chamber’s Cape Town Office since June 2019. It’s been a very active co-operation with several meetings, events, discussions and company visits in Thuringia as well as business travel and trade fair preparations and participation in South Africa by Thuringian companies.

The planned official delegation and official participation of LEG Thüringen at AfricaHealth Johannesburg in May were cancelled due to the Coronavirus pandemic. For Thuringian companies, assistance in South Africa had to be expanded and changed as a result of the pandemic. In practice, the contractually fixed assistances like business partner searches have now changed into ‘virtual business partner searches’ as a result of the current travel restrictions.

In addition to the organisation of virtual online meetings, an online platform (microsite) is currently being designed. On this online platform, Thuringian companies are supported in identifying and addressing target groups (business partners, sales partners, direct customers, cooperation partners and sales representatives).

We are currently assisting companies in the construction, e-mobility, renewable energy and medical sectors to enter the South African market. A webinar for Thuringian companies will be hosted on 30th June.

REPRESENTATION BADEN WÜRTTEMBERG
Since mid-2019, the Chamber has been representing the German Federal State of Baden-Württemberg. This partnership has already led a few important initiatives.

State of Baden-Württemberg, Minister for Economic Affairs, Labour and Housing, Dr Nicole Hoffmeister-Kraut, visited South Africa in November last year. She was accompanied by approximately 30 companies, and met with the MEC for Economic Development, Ms Nomusa Dube-Ncubé in Durban. A decision was taken to renew the partnership agreement between KwaZulu-Natal province and
Baden-Württemberg. Because travel is not possible due to the Covid-19 pandemic, Ms Dube-Ncube will participate virtually in the ‘2nd African Business Summit 2020 – Markets and Opportunities for Baden-Württemberg’s SMEs’ in October this year.

OFFICE MOZAMBIQUE
Recovering slowly from the debt crisis, more visitors from South Africa and Germany could be received and attended to in Maputo. The FACIM Trade show brought 11 German companies to the country with interest in entering the market and working with AHK. Together with the German cultural Centre, our AHK office offered trainings and coaching for young Mozambicans or start ups in the creative industries.

Successful ‘AHK Mozambique days’ were held in Durban and Johannesburg. A Mining delegation visited Mozambique in the context of a BMWi programme. Our AHK provided them with local contacts and new business opportunities. A new strategy was prepared with the colleagues from AHK Portugal: ‘Enter Mozambique via Portugal’. The European cooperation and networking in MOZ was strengthened by AHK Mozambique actively engaging in a European working platform. By DIHK standards (Head Office in Germany), we counted in 2019 18 ‘German’ companies in the country.

OFFICE ZAMBIA
In mid June 2019, our new representative, Ms Lena Mueller, moved to Zambia to take over responsibilities of Zambia office. In August 2019 we held an information event together with the office in Mozambique in Johannesburg. In October 2019 we organised a Start Up Germany Tour (NRW and Munich) In November 2019: we arranged for a delegation to Zambia within the context of the Competence Centre Water Management. This delegation was supported by the Fed. Ministry of Economic Affairs and Energy.

OFFICE ZIMBABWE
In 2019 the Chamber Office in Zimbabwe focused on establishing a legal entity in Harare. In February 2019 a briefing session was held in Johannesburg for the German Business Community in Zimbabwe, together with German Ambassador Dr Hutter and other speakers from Zimbabwe. In May 2019, a delegation from the DIHK and GIZ visited Harare for general Information and to assess the possibility of opening of Chamber Office.

Throughout 2019, the office concentrated on discussions with the law firm about registration of the local Chamber Office.

COMPETENCE CENTRES
Our Competence Centre for Sustainable Energies, based in our Cape Town office continues to work effectively for our member companies active in the field of renewable energy and energy efficiency.

The Competence Centre for Mining and Mineral Resources (CCMR) in our headquarters in Johannesburg is looking forward to a bright future. The CCMR has extended its country focus from four to 11 countries and therefore covers almost the entire region of southern Africa. The Mining Committee (Working Group Mining) established in 2018 has a strong representation of its members’ interests and provides a platform for networking and discussions within the mining industry. The Committee discusses in its four subcommittees (Legal, R&D and Education, Digitalisation, Supply Chain Development & ESD) current challenges and opportunities. The Committee meets up on a regular basis, at least twice a year.

The Health and Safety project is in its last project phase. Milestones such as the publication of a best practice report (2018) and the facilitation of six seminars and workshops in SADC (2019) were reached successfully. We are very proud to have our cooperation partners; the Minerals Council South Africa, ISSA Mining and MIASA, in this regard on board. This year, the project focuses on mental health issues on mine workers due to the consequences of Covid-19.

Competence Centre Water Management
Southern Africa faces increasing water scarcity due to the dual challenges of population growth (urbanisation) and climate change. As a result, technological solutions to improve sustainable water management have become critical to ensuring future resilience of the subcontinent. The German water sector can offer advanced technologies and many years of experience and contribute to overcoming the water management crisis in Southern Africa. The Water Management CC aims to promote bilateral exchange of technology and know-how between Germany and southern Africa in water management, encompassing the entire water value chain from source to wastewater treatment. Vera Massie assumed her position as head of the Water CC at the beginning of February 2020, replacing her predecessor, René Schieritz.
Bilateral trade promotion
The Trade Fairs Department supported corporate exhibitors and trade visitors in 2019 with attending and exhibiting at German Trade Fairs.

Competence Centre: Industry and Trade Fairs
Although 2020 was supposed to be a record year for German trade fair organisations, the Covid-19 pandemic decided that this was, in fact, not meant to be, because all trade fairs were cancelled or postponed from March 2020 onwards.

Some trade fairs will gradually restart the sector in September 2020. In terms of our Industry competence centre, we have received many requests for information and business partner searches. This has pushed us into a new digital sphere, forcing us to think out of the box when it comes to bilateral trade relations and delegation trips. It is also a good indication that the German industry is restarting and exploring new markets.

THANK YOU
I would like to express my gratitude to the Federal German Ministry of Economic Affairs and Energy and to the DIHK for their support, organisationally and financially. A special thank you also to the German Embassy, to Ambassador Dr Martin Schäfer, Deputy Ambassador and Head of Economic and Global Affairs, Dr Rüdiger Lotz and their team for the support and great cooperation throughout the year. I want to thank all members of the Senior Council and the Directorate for their support in the past year.

Thank you also to management and staff of the Chamber for their support! Last but certainly not least: Thank you to all our members and friends!

Thank you very much for your attention!

SABINE DALL’OMO
President, Southern African–German Chamber of Commerce and Industry
The future doesn’t just happen.

We all create it.

At BASF we are optimistic about the future. With our technical expertise and industry know-how, we are constantly working on new solutions and innovations to meet your business needs.

Find out more at
www.basf.co.za
www.grow-africa.co.za
President Cyril Ramaphosa hosted Chancellor Dr Angela Merkel, Head of Government of the Federal Republic of Germany on an official visit on Thursday, 6 February 2020, at the Union Buildings in Pretoria. Chancellor Merkel’s visit to South Africa was from Wednesday 5 February to Friday 7 February 2020, her visit follows the successful State Visit by the Head of State of the Federal Republic of Germany, President Frank-Walter Steinmeier, in Cape Town in November 2018.

South Africa and Germany’s strategic relationship is substantiated by 72 bilateral agreements between the two nations, providing a legal framework for cooperation in several areas. These relations are further enhanced by a Binational Commission, spanning Foreign and Security Policy, Migration and Humanitarian Assistance, Economy and Energy Development Cooperation, Environment, Science and Technology, Arts and Culture, Labour and Social Affairs and Vocational Education and Training (TVET) where the Chamber has played an integral role since 1985 starting with the Commercial and Advancement Training Scheme (CATS).
There are approximately 600 German companies represented in South Africa, Germany’s foremost trading partner in Africa. German companies directly employ about 100,000 people in South Africa and about the same number indirectly. Total trade reached 235 billion Rand in the 12 months ending November 2019, while South African exports (at 108 billion Rand) exceeded 100 billion Rand for the first time, narrowing the trade deficit.

In 2019, South African exports to Germany were higher than German exports to South Africa, with an estimated 9,578,472 million Euro – a trade surplus of a 240 million Euro for South Africa, the first time since 2001. Earnest commendation to the South African companies for this outstanding outcome.

President Ramaphosa and Chancellor Merkel also co-chaired the South Africa–Germany Business Roundtable accompanied by their respective Ministers and business delegations, including representatives of the German and South African business communities coordinated by the Chamber.
President Ramaphosa and Chancellor Merkel co-chaired the South Africa–Germany Business Roundtable on 6 February, 2020 at the Sheraton Hotel in Pretoria, accompanied by their respective ministers and business delegations, including representatives of the German and South African business communities.

The Chamber, together with the German Embassy, hosted a networking dinner for the German and South African business delegations, which had attended the business roundtable earlier in the day.

Key speakers included the South African Minister of Trade, Industry and Competition, Mr Ebrahim Patel. He gave the guests an overview of the afternoon’s discussions, which focused on greater trade and more investment opportunities between the two nations, leveraging those presented by the Fourth Industrial Revolution, specifically in strategic sectors like mining and energy, and collaboration in the field of clean and renewable energy. Talks between the leaders also focused on the acquisition of critical skills to prepare the South African workforce to adapt to the changing world of work and the knowledge; skills transfer from greater German investment in South Africa will play a key role in propelling our economy to greater heights.

Distinguished guests included the Chamber’s President, Sabine Dall’Omo, who is CEO of Siemens Southern and Eastern Africa; Dr Ulrich Nussbaum, State Secretary at the German Federal Ministry for Economic Affairs and Energy (BMWi); Dr Rüdiger Lotz, Deputy Ambassador and Head of Global and Economic Affairs at the German Embassy, Pretoria, and South African Reserve Bank Governor, Mr Lesetja Kganyago.

ABOVE: (left to right) Deputy Ambassador Dr Rüdiger Lotz, Head of Global and Economic Affairs at the German Embassy, Pretoria and Mr Jens Papperitz, Deputy President of the Southern African-German Chamber of Commerce and Industry and Managing Director of B.Braun Medical (Pty) Limited.
Total revenue in 2019 amounted to 27,446 million Rand, compared with around 19 million Rand in 2018. Surplus for the year (before finance charges) was 1,125,000 Rand. The BMWi/DIHK (Deutscher Industrie- und Handelskammer) contribution amounted to 8,789 million Rand in 2019.

The Chamber's income is generated mostly through services and membership fees:

- General Services: 19,524 million Rand
- Trade Fairs: 4,424 million Rand
- Membership fees: 2,077 million Rand

Salaries and wages: 11,632 million Rand

General office running costs of all four offices (Cape Town, Durban, Johannesburg and Maputo): 6,840 million Rand

Motor vehicle and travel expenses: 1,544 million Rand

Chamber functions and events: 1,576,000 Rand

Cost of sales and other expenses (project expenses, delegation expenses, market study expenses, trade fair expenses, training, bank charges): 13.63 million Rand

In the past two weeks the Chamber underwent an internal audit by the DIHK and the BMWi. This will be followed by a 'physical' audit, hopefully later in the year. Major outcomes are in the field of our MemoRandum of Incorporation. Later in the year or early next year we will hold an extraordinary AGM, to discuss the changes to bring our MoI more in line with the ‘Mustersatzung’ sample MoI of the DIHK. This will be a major venture, since our MoI prescribes strict rules for the necessary quorum, etc.

Another development for 2020 is the expansion of our training activity and the 'Skills Expert' at the Chamber, funded by the Federal Ministry of Economic Affairs and Energy. The aim is to develop further skills development programmes. I mentioned last year that new modules are being developed in addition to our long-running CATS programme in the field of Logistics as well as in our mechatronics training.

I would like to thank all members of the Directorate and Senior Council. A special word of thanks goes to our outgoing President, Sabine Dall’Omo. It has been a great pleasure to work with you as the Chamber President with your fresh and innovative style.

A big thank you to the German Ambassador, Dr Martin Schafer, Head of Global and Economic Affairs, Dr Rüdiger Lotz and Mr Alexander Salomon, the Head of the Economic Department and the whole team at the German Embassy.

Mr Salomon will leave South Africa in the next few weeks and I want to say that it was a pleasure and honour to work with him in the past years. Thank you and we wish him all the best for his work in Berlin.

To all our members for their involvement in and support of the Chamber – thank you.

Last but certainly not least I would like to thank all my colleagues at the Chamber for their hard work and dedication to our efforts!

Thank you for your attention.

MATTHIAS BODDENBERG
Chief Executive Officer
Southern African–German Chamber of Commerce and Industry
## Statement of surplus and other comprehensive income

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net income before finance charges</td>
<td>27 446 992</td>
<td>18 790 859</td>
</tr>
<tr>
<td>Finance income</td>
<td>1 125 424</td>
<td>1 844 990</td>
</tr>
<tr>
<td>Finance expenses</td>
<td>-9 607</td>
<td>-49</td>
</tr>
<tr>
<td>Net income for the year</td>
<td>1 162 377</td>
<td>1 910 434</td>
</tr>
</tbody>
</table>

## Revenue: 2019 vs 2018

- **Subsidies excl. key management personnel costs**
  - 2019: 8 789 226
  - 2018: 4 984 772

- **Trade Fairs**
  - 2019: 4 424 212
  - 2018: 1 576 178

- **Services**
  - 2019: 19 524 058
  - 2018: 13 886 640

- **Membership Fees**
  - 2019: 2 077 007
  - 2018: 2 181 345

- **Other**
  - 2019: 1 576 303
  - 2018: 2 013 919

## Expenditure: 2019 vs 2018

- **Personnel & related expenses**, excl. key management personnel costs
  - 2019: 8 163 980
  - 2018: 9 113 949

- **Office running expenses**
  - 2019: 6 840 796
  - 2018: 4 857 688

- **M/vehicle & travel expenses**
  - 2019: 2 418 004
  - 2018: 1 408 685

- **Function & representation expenses**
  - 2019: 1 576 196
  - 2018: 669 269

- **Cost of sale & other expenses**
  - 2019: 973 289
  - 2018: 6 682 827

## Revenue outlook: January to May 2020

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMWi Subsidy</td>
<td>11 549 180</td>
<td>9 827 651</td>
</tr>
<tr>
<td>Trade Fairs</td>
<td>4 498 368</td>
<td>1 855 849</td>
</tr>
<tr>
<td>Services</td>
<td>2 418 004</td>
<td>2 776 987</td>
</tr>
<tr>
<td>Membership Fees</td>
<td>2 053 980</td>
<td>2 338 742</td>
</tr>
<tr>
<td>Other</td>
<td>973 289</td>
<td>430 700</td>
</tr>
</tbody>
</table>

## Expenditure outlook: January to May 2020

<table>
<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel &amp; related expenses</td>
<td>11 549 180</td>
<td>9 827 651</td>
</tr>
<tr>
<td>Office running expenses</td>
<td>4 498 368</td>
<td>1 855 849</td>
</tr>
<tr>
<td>M/vehicle &amp; travel expenses</td>
<td>2 418 004</td>
<td>2 776 987</td>
</tr>
<tr>
<td>Function &amp; representation expenses</td>
<td>2 053 980</td>
<td>2 338 742</td>
</tr>
<tr>
<td>Cost of sale &amp; other expenses</td>
<td>973 289</td>
<td>430 700</td>
</tr>
</tbody>
</table>
### Directorate 2020–2021

**President**  
Mr Tim Abbott  
Chief Executive Officer  
BMW South Africa (Pty) Ltd

**Deputy President**  
Mr Jens Papperitz  
Managing Director  
B. Braun Medical

**Vice President**  
Mr Franz-Peter Falke  
Geschäftsführender Gesellschafter der Falke Gruppe, Falke KGaA

**Immediate Past President**  
Ms Sabine Dall’Omo  
Chief Executive Officer  
Siemens Southern and Eastern Africa (Pty) Ltd

**Additional Director**  
Mr Pfungwa Serima  
Group Chief Executive Officer  
Metrofile Holdings Limited

**Additional Director**  
Dr Dieter Kovar  
Schauenburg Systems (Pty) Ltd and Stratosat Datacom (Pty) Ltd

**Additional Director**  
Mr Mark Schröder  
Director  
WerthSchröder Inc

**Ex Officio**  
Mr Matthias Boddenberg  
Chief Executive Officer  
SA–German Chamber of Commerce & Industry

### Senior Council 2020–2021

<table>
<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Company/Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Mr Tim Abbott</td>
<td>Chief Executive Officer, BMW South Africa (Pty) Ltd</td>
</tr>
<tr>
<td>President</td>
<td>Mr Francoise Falke</td>
<td>Geschäftsführender Gesellschafter der Falke Gruppe, Falke KGaA</td>
</tr>
<tr>
<td>Immediate Past President</td>
<td>Ms Sabine Dall’Omo</td>
<td>Chief Executive Officer, Siemens Southern and Eastern Africa (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Michael Bauer</td>
<td>Managing Director, SAProperty.com</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Steffen Beuthner</td>
<td>Executive Chairman, PATHEQ QPL Logistics (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Nico Conradie</td>
<td>Chief Executive Officer, Munich Re of Africa</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Johannes Dressler</td>
<td>Chief Financial Officer, SAP Africa</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Oliver Drews</td>
<td>Managing Partner, Clifftop Colony Capital Partners (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Dr Klaus Eckstein</td>
<td>Chief Executive Officer, Bayer Southern Africa</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Klaus Eser</td>
<td>Chief Financial Officer, MBSA &amp; Executive Director, F&amp;I, Mercedes-Benz South Africa Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Ralf Franke</td>
<td>Director, Logcoat (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Rev Fr S Hippler</td>
<td>Executive Chair Board of Trustees, Hope Cape Town Trust</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Gregor Kuepper</td>
<td>Managing Director, SolarWorld Africa (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Dr Khulu Mbatha</td>
<td>Chairman, African Sky Innovative Solutions</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Peter Rohissen</td>
<td>Managing Director, Gas Safety International (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Dr André Schulz</td>
<td>General Manager, Southern Africa &amp; East Africa Lufthansa Group</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Markus Papken</td>
<td>National Sales Manager, DAL Agency (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Dr André Thomashausen</td>
<td>Director, Institute of Foreign &amp; Comparative Law (UNISA)</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Sam Tsima</td>
<td>Chief Executive Officer, COMETSA CoC International (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Martin Weiss</td>
<td>Country Director (South Africa, Lesotho and eSwatini), GIZ, South Africa</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Volker Werth</td>
<td>Director, InterGest SA (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Prof André Thomashausen</td>
<td>Director, Institute of Foreign &amp; Comparative Law (UNISA)</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Dr Philipp Nellessen</td>
<td>Chief Executive Officer, ThyssenKrupp Industrial Solutions SA (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Jan Ludolph</td>
<td>Managing Director, Geodis Wilson South Africa (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Dr Khulu Mbatha</td>
<td>Chairman, African Sky Innovative Solutions</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Sven Moeller</td>
<td>Managing Director, Bow Wave Advisory Group</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mrs Angela Naumann</td>
<td>Director, Chatroom</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Volker Werth</td>
<td>Director, InterGest SA (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Markus Thill</td>
<td>President Region Africa (RBAF/P), Robert Bosch (Pty) Ltd</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Martin Weiss</td>
<td>Country Director (South Africa, Lesotho and eSwatini), GIZ, South Africa</td>
</tr>
<tr>
<td>Managing Director</td>
<td>Mr Volker Werth</td>
<td>Director, InterGest SA (Pty) Ltd</td>
</tr>
</tbody>
</table>

### Honorary Members for Life of the Senior Council

- Mr Terry Bowman
- Dr Klaus Döring
- Mr Fritz Keller
- Mr Christoph Köpke
- Mr Leo Röhrig
- Mr Molefe Seth Phalatse
The Chamber hosted its annual Back to Work Braai at its head office in Forest Town, Johannesburg on Thursday, 30 January 2020, just two months before the Covid-19 pandemic became a devastating reality. Over 100 members and friends attended this much-anticipated event, which affords members and interested stakeholders insights into the previous year’s undertakings, and highlights projects for the year ahead.

Chamber CEO, Mr Matthias Boddenberg, touched on the issues at hand: Brexit and what it means in terms of trade for South Africa; the USA-China trade war; and, on the home front, the controversies faced by the country’s top two political parties, the African National Congress (ANC) and the Democratic Alliance (DA).

The country’s economic recession and sluggish GDP growth of 0.4% for 2019, the near downgrading by all three rating agencies, the high unemployment rate, and the troubled parastatals; SAA, Transnet and devastating energy issue with Eskom was a focus point on Mr Boddenberg’s agenda.

On a more positive note, trade volumes between South Africa and Germany were approximately 19 billion Euro, with South African exports to Germany of about 9.2 billion Euro and German exports to South Africa of about 9.9 billion Euro, which resulted in a Trade surplus of 0.7 billion Euro in favour of Germany in 2019. Reflecting back to 1999, the trade volume was 57 billion Euro and looking back to 2009, the trade volume was 9.7 billion Euro. In simple terms, the trade volume roughly doubled every ten years. This shows the resilience in the bilateral trade relations. Also of interest is the quality of South African exports; from commodities and agricultural products to semi-finished and finished products over the last decade.

Mr Boddenberg also shared some positive aspects on the Chambers development, with solid finances that enable us to continue with implementation of our vision 2025. The continued growth in membership, although on a very slow path, has grown between 2.5 and 3%. The Chamber now has about 600 members and around 30 strategic partnerships with organisations. In the coming year – 2021 – the Chamber plans to combine Sustainable Energy, Water Management and Recycling into a virtual Competence Centre – Environment.

From April 2020, a new competence centre – Sourcing – will enable South African companies to supply into the global value chain of German companies from Germany and South Africa. Its initial task will be to identify semi-finished industrial products from South African companies in line with the supply chain of German companies. This process began in 2018, and turned out to be very successful. The Chamber is therefore encouraged to expand this activity.

The representation of Federal States is another success story that will continue, with the Chamber representing the Free State of Bavaria since 2007 including the State of Baden Württemberg and the Free State Thuringia since 2019.

The year 2020 was anticipated to be another busy year for the Chamber. The visit of Chancellor Dr Angela Merkel on official State visit to South Africa from 5 to 7 February was a resounding success as was the all-important South Africa–Germany Bi-National Commission (BNC) planned for 18 and 19 March, with Foreign Minister Maas heading the delegation to South Africa. The BNC was hosted virtually via a video conference on 20 March 2020 due to the lockdown implemented by President Ramaphosa on 26 March to contain the spread of the coronavirus.

Despite the Covid-19 pandemic, the Chamber continued its activities for the year, albeit on virtual platforms, hosting several online sessions and webinars.

Thank you to all our members and friends who cooperate with us in various ways to let the South African–German Business community continue to forge strong bilateral business relations.
To get the ball rolling on a new cross-networking initiative, four European business chambers hosted a friendly game on the green at Bryanston Country Club.

The eager field of players comprised members of the Italian–South African Chamber of Trade and Industries, the Spanish Chamber of Commerce in South Africa, the Nordic–South African Business Association and the Southern African–German Chamber of Commerce and Industry. Everyone enjoyed a sunny day of golf followed by a prize-giving ceremony and networking dinner. A percentage of the proceeds was donated to the SA Breast Cancer Association.

Sincere gratitude to our sponsors, partners and the Master of Ceremonies at the prize-giving dinner, Diego de Radigues, Chairman of the EU Chamber of Commerce and Industry in South Africa.
The Chamber was honored to join with the German Embassy Pretoria and the Lufthansa Group South Africa and German Business Community in South Africa to commemorate the 30th anniversary of the fall of the Berlin wall on Saturday 9 November 2019 at the 012 Central, in the heart of Tshwane’s inner city.

The Chamber erected a three by three metre ‘Berlin Wall’ – an interactive platform for attendees to dismantle in a symbolic gesture of our commitment to breaking down barriers. Celebrations were bold and vibrant, with various German companies showcasing their companies and services alongside South African companies, which displayed the strong and growing partnership with South Africa, and South Africans from all walks of life.

Guest speakers on the day included German Ambassador, Dr Martin Schäfer; Sabine Dall’Omo, the Chamber’s then President and CEO of Siemens Southern and Eastern Africa; and, Barbara Creecy, Minister of Forestry and Fisheries and Environmental Affairs.

The day was celebrated with an elaborate fashion show presented by the Chamber and German fashion designer Annette Pringle-Kölsch, vibrant music and delicious German food and beer.
9 November 2019
HOPE Cape Town is a flexible and dynamic organisation in the sense that it responds to the ever-changing South Africa context, and to the needs of its clients, while remaining true to the original vision and mission to improve the quality of life of children and their families affected by HIV, social challenges and related conditions and to assist them to reach their full potential. While HOPE Cape Town empowers people to prioritise their physical health, the organisation has developed an innovative holistic plan of practices that benefit our clients to have deep connections with their family, community and the greater world.

Life on the Cape Flats – A visit to the community of Blikkiesdorp: Rev Fr Stefan Hippler leads the delegation through Blikkiesdorp where HOPE Cape Town’s social, educational, medical and outreach interventions are widely recognised.

Only when individuals in the community are capacitated to earn an income and provide for themselves and their families will they believe that they have a chance to improve their lives and the future of their children. By learning they become confident and have a sense of self-worth which builds positive thoughts and actions amongst themselves and those with whom they interact. The possibility to achieve...
their own greatness is more attainable; pain, stress and anxiety are alleviated and the beginnings of a healthy and thriving society are on the horizon.

Our philosophy of Education is based on the premise that all children and youth should have equal access to learning. HOPE Cape Town has operated in the township of Delft on the outskirts of Cape Town for more than a decade. With a population of over 500,000, Delft has been identified as a zone of poverty and unemployment. The unequal distribution of police resources and increase in unemployment are among the factors that contribute to the area’s consistent high crime rate.

Through community participation processes facilitated by HOPE Cape Town the residents of Delft identified the need to bridge the skills and capabilities gap by opening up education and opportunities with the establishment of a multipurpose facility where learning takes place and where youth are provided with a variety of skills development opportunities and holistic interventions.

Since its inception, HOPE Cape Town has enjoyed the support of the Southern African-German Chamber of Commerce and Industry and the partnership between the two organisations has yielded scope for networking and collaboration with national and international institutions and individuals that are supportive of HOPE Cape Town.

Led by the Head of the Bavarian State Chancellery and State Minister Dr. Florian Herrmann in October 2019, a delegation of Bavarian dignitaries visited the HOPE Cape Town Community Outreach Centre in Blikkiesdorp (on the outskirts of Delft) where the Regional Representative for the SAGCCI Mrs Anja Tambusso-Ferraz and Chairperson of the HOPE Cape Town Trust Rev. Fr. Stefan Hippler introduced the different interventions as well as the plans for expansion in Delft. Shortly thereafter, in the presence of Dr. Florian Herrmann, stakeholders and members of the SAGCCI in Johannesburg, a Memorandum of Understanding was signed with the Southern African-German Chamber of Commerce and Industry to accelerate the development of the German Dual Vocational Training and Education Programme in Cape Town in collaboration with German and local companies and higher education-based learning institutions.

With July 2021 as the anticipated launch date, this innovative model of post-high school training will provide dual certification and capabilities for graduates to apply their knowledge and skills in South Africa and Germany.
Covid-19 is not only affecting the healthcare systems, it forces us to address our social existence and post-pandemic thinking so that we enable a generation with the tools to think differently from the pre-pandemic generation.

The work of HOPE Cape Town has never been of greater importance than now in the current challenge of the Covid-19 pandemic and aftermath. The development of our children and youth and their need to find clear purpose and greater meaning in their lives is what directs our work.

Since it set up office in Cape Town, the Southern African-German Chamber of Commerce and Industry has been a beacon of hope and support for HOPE Cape Town and together, for 19 years in succession they have co-hosted The Ball of HOPE – a most prestigious event on the Cape Town social calendar and HOPE Cape Town’s biggest local fundraiser annually.

Scheduled for the 23rd May 2020, the Ball of HOPE would have been a double celebration namely, the 20th Ball of HOPE and the 20th anniversary of the Southern African-German Chamber of Commerce and Industry in Cape Town. Sadly, due to the global disruptions of Covid-19 the organisers came to a decision that it would be irresponsible to go ahead as planned. Consequently, the cancellation also meant a significant loss of revenue for HOPE Cape Town in the current financial year. Still, every cloud has a silver lining and HOPE Cape Town adapted to the change of operational frameworks as the pandemic affected our marginalised communities in situations of further vulnerability such as increased risk of gender-based violence during lockdown and the struggle to meet basic food needs.

Through our strategic partnerships we launched an appeal for assistance to conduct psychosocial programmes and to increase the feeding scheme in Blikkiesdorp to two meals per day five days per week. The phenomenal response from locally based partners and our international, mainly German champions enabled us to provide two cooked meals daily to children and adults in Blikkiesdorp, Delft, Manenberg and Nyanga. For the four months from April to July, 47,587 cooked meals were served, 13,672 emergency donations were handed out and recipients were regularly screened for Coronavirus.

HOPE Cape Town’s response to the Coronavirus must build a better future for every child in our under-resourced communities. As the spread of the virus slows in some countries, its social toll will come fast and hard. And in many places, it will come at the expense of the most vulnerable children. We are witness to this devastation in the impoverished communities and we continue to work with government departments and partners to minimise the social and economic impacts on the children and families we serve.

HOPE Cape Town is a registered non-profit organisation with public benefit status.

NPO No: 053-417NPO (SA); PBO (SA) No: 93/00/24/843
Address: 31a Carlisle Street, Paarden Eiland 7405
Tel:+27 21 507 5757; Email: info@hopecapetown.org
INNOVATIVE, ELEGANT COMPRESSION SOCKS AND TIGHTS
FOR ENERGIZING, STIMULATING EFFECTS.
Over the years, the Mercedes-Benz South Africa (MBSA) East London Plant has served as a benchmark for quality, innovation and technology for Daimler Plants across the world. A true “Out of Africa, for the World” is our drive. The establishment of an IT Hub in East London recognises the Plant as part of Daimler’s multi-hub concept to digitalise manufacturing operations, broaden IT competence and production know-how.

The IT Hub is an extension of the Mercedes-Benz IT Car Operations Division responsible for providing the global Daimler manufacturing plants with Information Technology (IT) applications specialising in the manufacturing operations for production systems, supply chain and maintenance systems.
Over the years, the Mercedes-Benz South Africa (MBSA) East London Plant has served as a benchmark for quality, innovation and technology for Daimler Plants across the world. A true 'Out of Africa, for the World' is our drive. The establishment of an IT Hub in East London recognises the Plant as part of Daimler’s multi-hub concept to digitalise manufacturing operations, broaden IT competence and production know-how.

The IT Hub is an extension of the Mercedes-Benz IT Car Operations Division responsible for providing the global Daimler manufacturing plants with Information Technology (IT) applications specialising in the manufacturing operations for production systems, supply chain and maintenance systems.

Mercedes-Benz IT Hub:
- Center of excellence in Information Technology
- A multiplier of the East London economy, MBSA continues to support the socioeconomic development of the region through its manufacturing operations alongside the establishment of new job opportunities, new skills and competencies brought about by the changes in technology and mobility through the IT Hub. These include software solutions such as paperless manufacturing, IOT connected devices, Digital shop floor management and Artificial Intelligence solutions.

Since its launch in 2019, the MBSA IT Hub has employed over 90 additional specialists consisting of a mix of graduates and professional experts with Data Science, software development, solution architects and business analyst skills.

Mercedes-Benz South Africa has a vested interest in the growth and development of South Africa as a center of excellence in information technology. The establishment of the MBSA IT Hub builds on a string of successes and milestones at the MBSA East Plant, which will produce the new generation Mercedes-Benz C-Class.

Visit https://corporate.mercedes-benz.co.za/
On 1 June 2019, the Chamber’s Western Cape Office took over representation of LEG Thüringen, the State Development Agency of Free State of Thuringia. The representative office promotes the expansion and deepening of economic cooperation between Thuringian and South African companies and organisations and deepens existing economic relations in South Africa. You can read more in the full report on Thuringia on page 30. On 7 October 2019, the Chamber’s Regional Office, in co-operation with the German Consulate, hosted a business networking lunch at the Ambassador’s Residence, with Mr Burkhard Balz, Member of the Executive Board of Deutsche Bundesbank (German Central Bank).

One of our focus areas in 2019/2020 was the introduction of our Chamber’s Dual Vocational Training programmes into the Western Cape in co-operation with HOPE Cape Town. Discussions took place with the Western Cape Department of Economic Development (Directorate Provincial Skills Partnership), the Premier of the Western Cape and the Mayor of Cape Town in this regard. The concept was very well received by all concerned and full commitment and support was granted by all stakeholders.

During the visit of Dr Florian Herrmann, Head of the State Chancellery and Bavarian State Minister of Federal and European Affairs and Media, the proposed projects and training facilities were presented and the State Chancellery of Bavaria committed to fully support the combined efforts of HOPE Cape Town and the Chamber, which will include financial support.

On 30 October 2019, in the presence of Dr Herrmann, a memorandum of understanding (MoU) was signed at the Head Office of the Chamber in Johannesburg between the SA–German Chamber and HOPE Cape Town to affirm the mutual interest on the part of each organisation to formally participate in the proposed implementation of Dual Vocational Training at the planned community outreach centre in Delft, Western Cape, starting with the logistics sector.

On 6 December 2019, a Business Networking Breakfast was organised in co-operation with the German Embassy on behalf of Dr Johannes Beermann, Member of the Executive Board of the Deutsche Bundesbank (German Central Bank).

Our popular Back to Work Lunch was hosted on 24 January 2020 at the Swiss Club in Green Point and was yet another fantastic networking event for some 70
members and partners of our Chamber.

During the 6th German-African Economic Forum in Dortmund, Germany, the Chamber’s Western Cape Representative and the Chamber’s Deputy CEO presented business opportunities in South Africa and took part in numerous B2B discussions with German companies interested in entering the southern African markets.

To identify opportunities on the South African market, the Chamber of Commerce Hannover (IHK Hannover) held a South Africa Day on 20 February 2020 at their offices in Hannover. B2B Meetings with our Chamber’s Western Cape representative were arranged to help interested parties exploit the market potential of South Africa, e.g., through individual industry information, by searching for South African cooperation partners or product-specific market analyses. Great interest was shown by businesses from the Lower Saxony region and they were given an opportunity to obtain an initial assessment of market entry possibilities in South Africa.

Several business delegations and trade fair participation by German companies in South Africa were cancelled or postponed due to Covid-19 and the closure of South Africa’s borders during the current lockdown. To comply with our goals and continue with our activities and efforts to promote bilateral economic relations between South Africa and the Western Cape and Germany, our offices had to adapt and come up with alternative solutions.

The Cape Town office organised many online meetings for German businesses, and hosted several online information seminars on the current situation in South Africa. We are in the process of finalising three online platforms/interactive portals (microsites) for Thuringia, Baden-Württemberg and Bavaria, the German Federal States represented by our Chamber in South Africa.

ACKNOWLEDGEMENTS:

We would like to extend our special appreciation for their ongoing support, assistance and co-operation to:

- The Provincial Government of the Western Cape;
- The German Consulate General in Cape Town;
- Wesgro – The Western Cape’s Official Trade, Investment and Destination Marketing Organisation; and,
- The Chamber’s members in the Western Cape.

During these challenging times, we would like to close our report with the following quote: ‘I can’t change the direction of the wind, but I can adjust my sails to always reach my destination.’ – Jimmy Dean
The State Development Agency of Thuringia (LEG Thüringen) maintains a network of foreign representations internationally. The Chamber’s Western Cape Regional Office has represented LEG Thüringen in South Africa since June 2019 and promotes expansion and deepening of economic relations between the two regions.

The Thuringian representative office at the is available to Thuringian companies as a first point of contact and assists, among other things, in the search for suitable South African business partners as well as providing information on market data, concrete business opportunities and projects in South Africa.

From 9 to 11 July 2019, during LEG Thüringen’s official participation at the Analytica Lab Africa in Johannesburg, four Thuringian companies from the medical and analytical field presented their products, innovations and latest technologies. Fruitful contacts and partnerships with South African companies were established. A site visit and discussions with representatives from Ampath Laboratories were arranged for the Thuringian delegates. Ampath is one of South Africa’s biggest pathology labs, with an extensive national network of over 300 facilities.

During LEG Thüringen’s event, Adios 2019 – Hej 2020! The International Reunion at Erfurt Airport, Thuringian companies were given an opportunity to meet all six foreign representatives of Thüringen International, a division of LEG Thüringen, to get detailed information on opportunities in different markets.

There was much interest in discussions with the foreign representative of Thüringen International for South Africa, which, as the largest market in Africa, is becoming increasingly important for Thuringia’s export activities and international trade relations. The South African representative’s visit was also used to conduct business roundtable discussions with Thuringian companies and for site visits to companies in the fields of e-mobility and medical technology.

In March 2020, the 13th Thuringian Foreign Trade Day (Außenwirtschaftstag) was postponed at short notice because of the Covid-19 pandemic. Although it could not be held as originally planned, the Thüringen International Team managed to organise registered B2B meetings with the appropriate safety and hygiene standards in place.

Several companies with diverse products and services, from filter technologies to surge arresters, drilling technology, construction and medical products, used the B2B meetings to get first-hand information on possible market entry and potential business partners in South Africa.
A visit to dump truck manufacturer Bell Equipment, a major South African company and investor, was a must. Bell has been operating in Eisenach/Thuringia since 2003 and in 2019 invested €13 million in new buildings and production facilities in the region making Thuringia a secondary production location for the corporation and the most important location in the northern hemisphere. During discussions the management of Bell Equipment explained why the company chose Thuringia as a preferred and attractive investment location.

The planned official participation of LEG Thüringen at this year’s Africa Health in Johannesburg and business delegation trip to Cape Town were cancelled due to Covid-19 and the closure of South African borders. A plan for participation for Thuringian companies at Africa Health 2021 as well as the planned business delegation is in place.

Some 26 Thuringian companies made use of the newly established LEG Thüringen representative office in South Africa during the past year and showed interest in doing business in the region. Despite all the adversity, South Africa remains one of the most stable economies on the African continent and a very important partner for the Thuringian economy.

The Chamber, in close co-operation with LEG Thüringen is currently finalising the concept of an interactive online portal, a microsite, to further intensify bilateral trade relations between the regions.

We would like to thank the management and entire team of Thüringen International for their fantastic co-operation and support during 2019/2020 and TI’s Project Director for the Middle East and Africa, Mr Hakim Kennich, for the outstanding teamwork, guidance and introductions. Last but not least, gratitude goes to our local partners and stakeholders for their assistance in facilitating the strengthening of SA-Thuringian business relations.

Compiled by:
Anja Tambusso-Ferraz
Representative for the State Development Agency of Thuringia (LEG Thüringen) in South Africa
The Southern African–German Chamber of Commerce and Industry has represented the Free State of Bavaria in South Africa since 2007. Bavaria is a favourite tourism destination and home to Siemens AG, BMW AG and Audi AG. However, because the backbone of the Bavarian economy, is its many small and medium-sized enterprises (SMMEs) the Chamber’s representation focuses on helping Bavarian SMMEs foster their business relations with South African partners, find suitable business partners, and intensify their cooperation.

As a first point of contact for companies from Bavaria, the Chamber has helped many Bavarian companies launch in South Africa or expand their business activities.

In 2019, 54 companies approached the Chamber, mostly with enquiries about market entry and market conditions. Three companies (solar installation and maintenance, powder coating and high-strength pipes) requested more involved support with challenges in the field of customs and standards.

A special highlight was the visit of State Minister Dr Florian Herrmann to South Africa. During this occasion the Chamber arranged a meeting with local Bavarian companies and their South African counterparts.

Chamber representatives participated in three events in Munich – the Global meeting of Bavarian Representatives in Munich in February; Africa Forum Bavaria on 25 July 2019; and, The Trade and Connect Event on 21 November.

Bavarian activities in South Africa and the world are promoted on the Chamber’s various platforms. The newsletter, News Mail, reports regularly on special events and new initiatives, as does the Chamber website.

Plenty to check out about the wonderful Free State of Bavaria!

Matthias Boddenberg
CEO, Southern African German Chamber Representative of the Free State of Bavaria in South Africa
Telephone: +27 11 486-2775 Fax: +27 866 791 206
Email: bavaria@germanchamber.co.za
KNOW THE EXACT OFFER,
UNLIKE THE DISH MARKED SQ

BMW NOW OPEN IN ALL FINE RESTAURANTS

Introducing a new way to buy BMW. A way that guarantees you get the same offer for the same car anywhere in the country, so you’ll know that the price we quote at one retailer is the same price you’ll find anywhere else.

buy.bmw.co.za
CHAMBER OFFICES

DURBAN OFFICE: KWAZULU-NATAL

The German Chamber's regional office in Durban has been servicing its members and clients within the KwaZulu-Natal (KZN) region since March 2012. KZN offers numerous business opportunities. Major sectors include industrial manufacturing, harbour economy, logistics, renewable energy, food and agriculture, as well as water and energy. The Chamber works continuously to strengthen and extend their networks within the region to provide the best possible support when it comes to bilateral business relations in KZN. This includes networking and information events, service provision, as well as the support of business delegations.

BADEN-WÜRTTEMBERG VISIT
A highlight at the end of November 2019 was the delegation visit of the Federal State of Baden-Württemberg, led by Dr Nicole Hoffmeister-Kraut, Minister of Economic Affairs, Labour and Housing. The delegation consisted of 40 top business people from Baden-Württemberg that included CEO’s and presidents of global businesses within the automotive and environmental industries. They learned about the local industry, as well as met with potential business partners.

The delegation included a meeting with MEC for Economic Development, Tourism and Environmental Affairs, Ms Nomusa Dube-Ncube, briefings, B2B meetings, company visits and networking functions. Both the automotive and environmental sectors are important sectors in the KZN region and the whole value chain offers vast business opportunities and potential for bilateral cooperation.

The Federal State of Baden-Württemberg has a long-standing Twinning Agreement with the KwaZulu-Natal Provincial Government. Both sides have a great interest in intensifying this partnership.

BACK-TO-WORK BRAAI
The start of 2020 was celebrated in the form of a Back-to-Work Braai in January 2020 at the Country Club Mt Edgecombe. Mr Boddenberg mentioned that 2020 would be a very busy year. A highlight will be the visit of Chancellor Angela Merkel in February. The Chamber’s plans for 2020 include an increased focus on skills development as well as addressing ways to deal with water and energy challenges in the SADC region. One of our key developments is the establishment of our Competence Centre for Agriculture & Food processing which will be located at our Durban Regional Office.

DR MADELEINE MARTINEK
The Durban Regional Office had the privilege of hosting Dr Madeleine Martinek, a colleague from the German Industry and Commerce Greater China, Beijing as a speaker at a Business Breakfast on China in March. Dr Martinek is the Head of Legal & Investment Department at the Chamber in Beijing informed a small group of members on China’s new investment law (entered into force in January 2020 as well as the Corporate Social Credit System (which also affects foreign companies). She also spoke about how the coronavirus had affected China.
INDUSTRY 4.0 DELEGATION
The Chamber hosted a business delegation in the Industry 4.0 sector in March 2020 with five German companies that visited Johannesburg and Durban. The main objective of the trip was to establish business contacts between the German delegates and local companies and organisations.

The German companies represented different portfolios of the Industry 4.0 sector – from sensors for automation to cyber-protection and licensing. Together they focused on one of the most important new areas of focus in South Africa – the fourth industrial revolution. The trip offered German companies the opportunity to present their products directly to potential customers and business partners and to establish important contacts. In addition, the B2B talks and the seminar day provided further insights into local market conditions.

For the South African partners, the event served as an opportunity to get to know new technologies and processes in the Industry 4.0 sector. The opportunities for future cooperation in the Industry 4.0 sector between Germany and South Africa were expanded.

QUARTERLY DRINKS
The Durban Regional Office, together with the Durban Offices of the Belgian Chamber of Commerce and the Holland Business Chamber started an initiative called the ‘Quarterly Drinks’ event. This informal networking event is an opportunity for the members of the German, the Dutch and the Belgian Chambers of Commerce to network and meet fellow members. The first Quarterly Drinks was held at Franks in Mount Edgecombe in December 2019, and the second one at the Market Café Restaurant in Durban. Both events were well-attended, and new contacts were established.
REGIONAL COORDINATION

The SADC countries are more and more in the focus of potential business activities and bilateral relations. The German Chamber receives an increasing amount of requests related to the whole region and appointed a regional coordinator to secure the needed support structure.

INFORMATION AND NETWORKING
The German Chamber continued to co-host regular events informing members and the extended network about business opportunities in the SADC countries. In the year 2019/2020, these events were not only conducted as seminars in South Africa or Germany, but also online. The countries of Zambia, Mozambique, Zimbabwe, Namibia, Botswana, Madagascar and Mauritius were the focus of those events.

To inform German companies about the most relevant questions about conducting business in the region, we have compiled corresponding information leaflets titled ‘doing-business-questions’ on the markets of Mozambique, Namibia, Zambia and Zimbabwe. Those documents are available in German language on our website and publications on additional markets will follow soon.

BUSINESS DELEGATIONS
As a follow up to the country seminar on Eswatini, which took place at the beginning in 2019 in South Africa, the German Chamber organised a business delegation to the country later that year. Representatives from 10 German organisations partook in the business trip, which included a business dinner, seminar, and B2B meetings. Deputy Prime Minister of the Kingdom of Eswatini, H.E. Thembisa Nhlanzango Masuku and Mr Manqoba Khumalo, Eswatini Minister of Commerce, Industry and Trade welcomed the business delegation.

A B2B Matchmaking trip for buyers interested in the Namibian market was organised in cooperation with the GIZ Global Business Network. The delegation that had initially planned to visit the country in the beginning of 2020 was conducted virtually in July, given the imposed travel restrictions at that time.

An online seminar gave comprehensive details about Namibia’s sourcing capacities and was followed by individual B2B meetings.

AFRICA-WIDE COOPERATION:
We are cooperating closely with other German, European and local organisations across the whole continent, as well as in Germany. This includes the preparations for the next German African Business Summit. Close ties exist especially within the African AHK network. Joint projects and service offerings are providing solutions to the increasing demand for regional coverage by clients.

Lea Etsebeth
Regional Coordinator Southern Africa
Tel. +27 (0)11 486 2775
Email: letsebeth@germanchamber.co.za

Mr Manqoba Khumalo, Eswatini Minister of Commerce, Industry and Trade, together with local guests and the German business delegation, headed by Chamber President, Ms Sabine Dall’Omo.
Power your way into the GTI inner circle with a beast so rare, only 300 will hit the streets. This unique breed is packed with a 2.0 turbocharged engine that can clock 0 – 100 km/h in 5.6 seconds, making the new Golf GTI TCR a limited edition with 213kW of power.
A new government came into power under President Filipe Jacinto Nyusi after Frelimo’s landslide victory at the end of 2019. Although the election process was contested, the change will bring some stability to the country and the economy. The new Minister for Industry and Commerce, Mr Carlos Mesquita, took office in January 2020.

The case of Mozambique’s ‘hidden public debt’ of nearly 2 billion US$ is either unresolved or under renegotiation while the former finance minister, Mr Chang, is in South Africa awaiting a decision about his extradition to Mozambique or the US. As the confidence of the international donor community was beginning to rebound Mozambique was hit by two cyclones in early 2019.

The Coronavirus pandemic dealt the country another blow in 2020. After the first Covid-19 cases were detected in March, a state of emergency was implemented in April and May; borders were closed and air traffic was halted, with severe repercussions for the economy. Tourism is now almost non-existent, many people have lost their jobs and the social protection system cannot cover all people’s needs. It is estimated that the economy will shrink significantly in 2020.

Political instability is also a factor. Despite the peace agreement between Renamo and Frelimo, attacks by Renamo dissidents still occur in central Mozambique. Even more worrying are the frequent terror attacks, presumably by Islamic fighters and organisations, in Cabo Delgado in the north of the country where the gas fields are located.

The French Total Group has purchased the Anadarko assets and will invest around 23 billion US$ to export liquid gas from Mozambique in the near future. It is not yet clear what impact the terror attacks and Coronavirus pandemic will have on this development. Total is confident and plans to go ahead, which will help to stabilise and reivate the economy. Exxon, the other big investor in the Mozambique gas business, has yet to make a final investment decision.

In September 2019, the international Maputo Trade fair (Facim) was attended by 11 German companies and featured a well-designed German pavilion that was visited by President Filipe Nyussi and most of the country’s ministers.

Trade between Germany and Mozambique increased to more than 300 million Euro in 2019. Graphite exports to Germany increased and will be an important export product in the future, along with aluminium and coal.

1 It was revealed in 2016 that semi-public entities had taken on debts backed by government guarantees without submitting them to the Assembly of the Republic as the Mozambican constitution requires.
THE YEAR AHEAD

We are confident that 2020/2021 will bring further progress. The economic performance of Mozambique – and opportunities for German companies – will depend heavily on future energy prices, ongoing oil exploration and the investment decisions of the big oil, gas and coal companies in Mozambique. Total’s decision is a very positive signal for others to follow including downstream investments.

The deferred date of the new Maputo Trade Fair, Facim, where Germany usually hosts its own pavilion, normally takes place in the first week of September, but the new date is yet to be announced.

EuroCAM will continue to organise local events; we expect to operationalise our FDI assistance platform, PAIE, with the Ministry of Industry and Commerce. The major objective is to advocate FDI and create a capable task force together with MIC to address the day-to-day problems of foreign investors.

As we concluded a comprehensive study last year about trade and investment decisions of German companies in the lusophone African countries, we are looking forward to the follow-up activities and new facilitating instruments together with our colleagues from AHK Lisbon. The initiative is called Maputo via Lisboa and the first step shall take place with an event in November in Lisbon.

The cooperation with the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) and Expert5 programme will continue and we will have a second round of IT Trainings and start up coaching for young creative people together with the Goethe institut Centre in Maputo. It will develop tools to help companies to digitalise processes. At the same time trainings for women in the IT business will be provided together with our colleagues from the AHK São Paulo in Brazil. Furthermore, the AHK Mozambique will continue to offer briefings and consultancies via digital formats in order to keep companies informed and interested in the Mozambican markets.

AHK Mozambique will continue its good cooperation with the German Embassy in Maputo and we are pleased to welcome a new Ambassador as well as a new deputy later this year.

Zambia is in severe economic crisis because of the Covid-19 outbreak, although the economy was already battling droughts, load-shedding and a decrease in the price of copper, Zambia’s main export. Zambia’s debt has risen sharply in the past five years.

The Kwacha dropped 23% against the US Dollar in the first quarter of 2020, causing further declines in the copper price. Zambia is heavily dependent on imports which have decreased because of falling exchange rates. Zambia is even more indebted since government shifted money towards the fight against Covid-19.
ACTIVITIES

START UP GERMANY TOUR
In October 2019, the Lusaka Office sent five delegates from the SADC region to the Start-Up Germany Tour to North Rhine-Westphalia where almost 50 Start Ups from around the globe converged to participate in pitch contests in front of renowned companies and investors in the fields of insurtech, immobility and logistics. Two of the three finalists from the Start-Up Germany Tour were from the SADC region and pitched on the international stage of the RuhrSummit; one of them ranked third. This delegation to Germany served to establish contacts to potential partners and to enlarge the global network.

WATER DELEGATION
In November 2019, the Lusaka Office welcomed representatives from eight German companies from the water sector. In collaboration with the German Water Partnership, the Southern African–German Chamber of Commerce and Industry organised a business delegation of German companies in the water sector to Zambia, in the cities of Lusaka and Ndola from 25 to 29 November. The first day commenced with a closed briefing to the delegates by then German Ambassador to Zambia, Achim Burkart and continued with a conference in Lusaka. At the conference, each participating company briefly presented their value proposition and availed themselves for B2B meetings. The subsequent days were filled with individual B2B Meetings and site visits in and around Lusaka and in the Copperbelt. This initiative was part of the ‘Market Development Program’ (MEP) of the German Federal Ministry of Economics and Energy (BMWi).

BACK TO WORK FUNCTION
In February 2020 the Lusaka Office together with the British Chamber of Commerce and the EU Business Club organised a Back-to-work breakfast. The speakers included Roseta Chabala, CEO of ZAMEFA and Immediate Past President of ZAM, and John Kasanga, a well-known consultant with an interesting take on the country’s business sector and economic situation. The speakers focused on the year ahead and shared their insights on what to expect; in relation to economic and debt management; how regional trade may develop and what impact the AfCFTA may have, the probable business environment given the increasing numbers of failing business and the stubbornly high cost of finance and other topics. At that point, the Covid-19 pandemic was not yet in sight.

WEBINAR AND SPRECHTAG (CONSULTATION DAY)
At the beginning of May, the Lusaka Office, together with the Maputo Office, held an Online Session as part of the DIHK Navigator series. In this online session, both offices gave an insight on the status quo of Covid-19 developments in their countries for 45 minutes. The Chamber of Commerce in Hamburg Germany organised a Sprechtag (consultation day) for members that are interested in Southern Africa. The Offices in Zambia, Mozambique and South Africa had several consultations with companies from various industries. This first virtual Sprechtag was a real success.

EXPORT INITIATIVE RENEWABLE ENERGIES
The Export Initiative Energy’s business trip to Zambia and Zimbabwe, organised by RENAC and the SA-German Chamber of Commerce, was initially planned for April 2020. Due to Covid-19 it was decided to reschedule it to early September and change the format to a virtual delegation trip. The joint seminar and individual B2B appointments were all held online. Nonetheless, thanks to our established networks in Zambia and Zimbabwe and the preliminary work of the Export Initiative Project Development Programme (PEP) the business trip delivered a benefit to the six German participating companies.

CERTIFICATION FOR GBV-FREE COMPANIES
The Lusaka office, together with the German Chamber in Bolivia, is developing a certificate for companies that are actively fighting gender-based violence (GBV). The certification will consist of an online and offline capacitation/training services as well as a company audit in terms of topics related to company policies. The content will be developed in a joint steering committee of AHK Southern Africa, GIZ, representatives of the private sector as well as local authorities and possibly representatives from civil society and NGOs. This project was developed through an initiative of the GIZ ExperTS programme and with funding from German Cooperation. Should you be interested to become a part of the steering committee, please get in touch with us.

OUTLOOK
For the first half of 2021 the Lusaka Office is planning to relaunch the successful German Zambian Business Forum, which was firstly held in 2017. Furthermore, upcoming events are planned in Lusaka and the Copperbelt, together with our Competence Centre of Mineral Resources and Mining as well as the Water Competence Centre.
President Mnangagwa declared a State of Emergency restricting travel and public gatherings on 17 March 2020, before any cases of Covid-19 infection had been reported. The first case was announced on 22 March and the first death the following day. Although the full lockdown implemented on 30 March for three weeks was widely criticised by business and industry, as it would inflict further damage on the already battered economy, it seemed necessary to prepare the health system for a possible wave of Covid infections.

Companies, educational facilities, and public administration offices had to close and citizens were instructed to stay at home except to buy food or for essential services such as health care. Movement within the country as well as international travel were restricted drastically. By road, only cargo was allowed across borders and air travel was restricted to repatriation flights, with the exception of the Ethiopian Airways route between Addis Ababa and Harare.

In May, lockdown was relaxed and companies in the formal sector could restart operations under strict hygiene conditions. The informal sector, which constitutes 60% of the economic activity and sustains the livelihood of the largest part of the population, resumed a couple of weeks later.

All economic sectors were seriously affected by lack of transport, interruption of supply chains and declining demand. The tourism industry was worst hit because of local and international travel restrictions. The mining sector, one of the main foreign currency earners, is expected to shrink approximately 60% in 2020. Some farms maintained operations, albeit at a lower level. To make things worse, the agriculture sector is being hit by Zimbabwe’s second drought in two years. Zimbabwe ranks among the 15 most fragile countries in the world when it comes to food security. In 2019, an estimated seven million Zimbabweans were dependent on external food support, most of which comes through the United Nations World Food Programme. There is a great danger that large parts of the population will suffer undernourishment and malnutrition.

In addition to local job losses, retrenchments in neighbouring countries drastically reduced the remittances from Zimbabweans working abroad. Inflation surged to about 800% in July 2020; incomes are not keeping up with price increases and it is feared that the country returning to the hyperinflation of 2007/8. Inflation is mainly fueled by the lack of foreign currency and the resulting parallel market where foreign currency is obtained at a premium. In June, the Reserve Bank of Zimbabwe introduced a Foreign Currency Auction System to determine the official value of the Zimbabwe Dollar. The first results show a tendency of closing the gap between the official rate and parallel market rate. The government expects that this will stabilise prices.

Just before lockdown was announced in South Africa, the Southern African-German Chamber of Commerce and Industry organised a well-attended briefing session for German business in Johannesburg attended by the German Ambassador, Thorsten Hutter, representatives of Zimbabwean Business Associations and German businessespeople from Zimbabwe. The Deputy Minister of Foreign Affairs and International Trade addressed the audience on the situation from the government’s point of view.

In June the Honorary Representative in Zimbabwe held an online presentation – the Corona Navigator Series – for German businesses and the German Chamber Network which elaborated on the economic and social implications of the Covid-19 pandemic.

The German delegation visit to Zimbabwe for April 2020 planned by the Competence Centre Sustainable Energies – Renewables for Commercial and Industrial Embedded Generation – could not take place due to the pandemic. There is a plan to host an online conference and business-to-business talks in September 2020. It is a challenging task, but Zimbabwe and German business should definitely benefit from this new approach.

Despite the many negative indicators, German companies are still interested in Zimbabwe. The Zimbabwean economy has shown extreme resilience in the past and is no stranger to crisis, although the pandemic, in addition to the numerous challenges, is completely unknown territory. The government is now struggling with the worst economic crisis in the last 10 years; economic recovery in Zimbabwe has become even more remote. ■
In 2019, economic ties between southern Africa and Germany were strengthened; imports from South Africa to Germany amounted to 9,579 million Euro – an increase of 19.7% compared to 2018. Worldwide, Germany was the third most important buyer of South African goods and the second most important supplier for South Africa, with exports of 9,346 million Euro.

The Frankfurt Office held weekly phone calls and meetings with small and medium enterprises in Germany to address queries on trade and investment relations between Germany and southern Africa. The honorary representative presented our chamber at South Africa seminars at German Chambers of Commerce and Industry (IHKs), which included two Africa conferences in Frankfurt, and a human rights and business in South Africa conference in Berlin.

In-house consulting demonstrates chamber competence to new German customers in a targeted way and the cooperation between the chambers in Germany and those abroad. In-house consulting took place at companies in Frankfurt, and in North Rhine-Westphalia a meeting initiated by IHK Düsseldorf, the management signed on as a chamber member.

A highlight of 2019 was the South African delegation to K, the world-leading fair for plastics and rubber in Düsseldorf. This pilot project to create an SADC-based supply chain was funded by GIZ, the official German organisation for international Technical Cooperation. B2B meetings at the K fair and an export-seminar were organised for the delegation. At an Africa Workshop at the Congress Centre, delegation members shared their experiences in the field of technology transfer and expanded on opportunities and challenges in trade relations between Africa and Europe.

2020 began on a promising note until the Coronavirus pandemic hit. From January to June exports from Germany to South Africa dropped by 32.9% from 4,754 million Euro in 2019 to 3,188 million Euro in the first half of 2020. We received very few enquiries from home offices and German SMEs because finding and penetrating new markets was not a priority. A few seminars were hosted virtually in the form of webinars. Since July there has been a slight increase in demand. The representative would like to thank the chamber’s dedicated teams in Johannesburg, Cape Town and Durban for their cooperation.

The goal of the new office is to increase our visibility in Germany and promote the services and projects that the AHK-network in sub-Saharan Africa provides to companies that want to do business in sub-Saharan Africa and vice versa. The focus of the last quarter of 2019 was to build relationships with new and established partners in Germany, such as the ‘Wirtschaftsnetzwerk Afrika’, German industry associations and companies.

Julia Seibert
Liaison office for sub-Saharan Africa
Breite Strasse 29 | 10178 Berlin
Tel: +49 30 2 03 08 - 2430
E-Mail: seibert.julia@dihk.de www.dihk.de

Marie Scholz
Liaison office for sub-Saharan Africa
Breite Strasse 29 | 10178 Berlin
Tel: +49 30 2 03 08 - 2431
E-Mail: scholz.marie@dihk.de www.dihk.de
GERMANY Berlin
NIGERIA Abuja Lagos
GHANA Accra
KENYA Nairobi
TANZANIA Dar es Salaam
ANGOLA Luanda
ZAMBIA Lusaka
MOZAMBIQUE Maputo
SOUTH AFRICA Durban Johannesburg Cape Town
The Covid-19 pandemic has forced the global economy to explore new markets and marketing platforms, which has resulted in many requests for information, business partner searches and the sourcing of new supply chains between Germany and southern African markets. This is not only a positive indication of an economic restart, but it has also pushed the SAGCC into a new digital sphere, allowing us to think out of the box when it comes to bilateral trade relations, delegation trips and our every-day working environment.

NEW SAGCC SOURCING DESK
Sourcing, and the subsequent expansion of southern African value chains into Europe, has been a talking point at the Chamber for many years because it involves all the competence centres in their role to foster bilateral trade. It is with great pride, that we announce the launch of our Sourcing Desk, led by Mr Timo Pleyer. The Sourcing Desk is a networking platform for information exchange and services relevant to this topic.

BUSINESS DELEGATIONS WITHIN THE COMPETENCE CENTRE INDUSTRY
Political and business delegation from Baden-Württemberg to Johannesburg and Durban

A political delegation headed by the Minister for Economic Affairs, Labour and Housing, Baden-Württemberg, Dr Nicole Hoffmeister-Kraut MdL, took place from November 25 to 27, 2019 and consisted of approximately 40 participants from the fields of politics, business, industry and public institutions. The two main areas of interest were environmental technology and automation, and mechanical engineering. The SAGCC’s programme which started in Durban and finished in Johannesburg included company visits, B2B meetings, political receptions and an economic forum.

Durban highlights included a delegation briefing about the political situation in South Africa and the province of KwaZulu-Natal by representatives of the German Embassy and Trade and Invest KwaZulu-Natal and signing of a letter of intent between the province of KwaZulu-Natal and the Ministry of Economic Affairs, Labour and Housing Baden-Württemberg with the main aim of strengthening cooperation between the two countries.

A reception at the residence of the German Ambassador, hosted by the ambassador, Martin Schäfer and Minister Hoffmeister-Kraut and the economic forum, Baden-Württemberg meets Gauteng, were two of the Johannesburg highlights. The keynote address at the forum was by former politician Mr Roelf Meyer, who played an active part in the transition to democracy when he led negotiations on behalf of the National Party with President Ramaphosa, who was then the ANC’s chief mediator. Although it has been 20 years since Meyer left politics to play a behind-the-scenes role in global conflict resolution, he is now working with the South African government to help jumpstart the economy.

Another highlight was a lecture on trade and investment opportunities in Gauteng by the Gauteng Growth and Development Agency.

LEFT: Participants of the Baden-Württemberg delegation, led by Minister Dr Nicole Hoffmeister-Kraut MdL, German Ambassador to South Africa, Martin Schäfer, Deputy CEO of the SAGCC, Frank Aletter, and members of the SAGCC Senior Council and Directorate, during the Economic Business Forum at the Johannesburg Country Club.

ABOVE: Minister Dr Nicole Hoffmeister-Kraut MdL and German Ambassador to South Africa, Martin Schäfer, during the reception at the Ambassador’s residence.
SOURCING DELEGATIONS TO MESSE DÜSSELDORF

The Southern African–German Chamber of Commerce and Industry was awarded a Grant Agreement by the German Development Cooperation (GIZ GmbH) in the 4th quarter of 2019. The aim of this grant agreement was the organisation of partly funded delegations (made up of export-ready companies from southern Africa) to the K and Medica trade fairs, held at Messe Düsseldorf in October and November 2019 respectively. The improvement and expansion of southern African value chains into Europe was the main goal.

During the delegation trips, delegates had the opportunity to attend various B2B meetings, training seminars and site visits in order to work on potential export- and/or technology transfer deals.

CIVIL SECURITY TECHNOLOGIES AND SERVICES DELEGATION TO JOHANNESBURG

In March 2020, the SAGCC hosted a business delegation from Germany with the topic Civil Security Technologies and Services. The following companies participated: KSB Sicherheitstechnik Gmbh, Frequentis, HG Systeme, ISN International Security Network, and Schwarz Druck GmbH. The delegation trip was cut short when a National Disaster was declared due to Covid-19. B2B-meetings were however moved to virtual formats, and by doing so, the participants did not lose out on possible future business opportunities. The SAGCC is still working on this delegation in a virtual format and as such is committed to finding additional valuable business partners and opportunities for the participants expanding beyond the physical delegation trip.

AHK WORKING GROUP INDUSTRY 4.0

The SAGCC has established the AHK Working Group Industry 4.0; members range from industry leaders in the automation and digitisation sector to manufacturers and end-users. To create the best results and impact, representatives from research institutions, business associations, ministries, and members of the Presidential Commission on 4IR are included in this work group.

The highlight of this working group’s activities for 2019 was the presentation of the interim report. Based on the recommendations of this report, the AHK Working Group Industry 4.0 will align its activities into different streams to give support in the areas of 4IR. Such areas will be 5G, telecommunication policy, skills for 4IR and Industry 4.0. The working group has also included various European champions in its activities and has positioned itself as a central industry platform for the EU Chamber.
TRADE FAIR REPRESENTATION:
Messe Düsseldorf, Koelnmesse, Messe Berlin and Messe München

The SAGCC Trade Fairs Department is the official representative in South Africa for all trade fairs organised by Messe Düsseldorf and Koelnmesse, for Messe Berlin’s InnoTrans trade fair in Southern and Western Africa, as well as for all of Messe München’s trade fairs in the SADC region. We support visitors and exhibitors who would like to attend any of our representative shows and can provide additional support, in the form of delegation trips and B2B meetings for example, upon request.

Although 2020 was tipped to be a record year for German trade-fair organisations, the Covid-19 pandemic halted all trade fairs, which were subsequently cancelled or postponed from March 2020 onward. Some trade fairs slowly restarted in September 2020 in Germany and various international trade fairs took place as scheduled in Asia in the second half of 2020.

Despite the limitations caused by the pandemic, the SAGCC still engaged in a number of promotional activities before lockdown was implemented. In December 2019, Alexa Gerrard (Messe Düsseldorf and Koelnmesse representative) joined two South African journalists on a Messe Düsseldorf press tour to Cairo. During this tour, they attended a press conference about interpack (Nr. 1 Packaging and Processing Trade Fair), and also experienced the first ever pacprocess MEA trade fair.

We hosted an Export Readiness Workshop in February 2020 as part of our continuous commitment to sourcing and the subsequent expansion of southern African value chains, as well as the promotion of our representative trade fairs. During the workshop, the following topics were addressed: German-South African trade relations, dtic funding and training for export promotion, export and trade fair logistics, and quality controls and certifications.

The ever-popular drupa (the Nr.1 trade fair for printing technologies), which was due to take place in June 2020, was postponed until April 2021. To promote this event, we hosted a German-inspired VIP lunch at the SAGCC to discuss the latest industry trends. Attendees included members of the media (GAPP Magazine, Packaging and Print Media and Africa Print) the dtic, Printing SA and members of the South African printing industry.

Messe Düsseldorf’s President and CEO of 17 years, Mr Werner M. Dornscheidt, retired from his office on the 30th June 2020. Werner M. Dornscheidt has left his mark on Messe Düsseldorf: its corporate strategy, its international outlook, its state-of-the-art premises, its digital transformation and its financial stability. His position has been taken over by Mr Wolfram N. Diener and the management team has been completed by Erhard Wienkamp and Bernhard J. Stempfel.

Messe Düsseldorf GmbH is the leading trade fair organiser when it comes to international capital goods trade fairs and it closed the last full business year with a turnover of EUR 378.5 million. Group earnings totaled at EUR 56.6 million which is a good prerequisite for buffering the effects of the Covid-19 pandemic.

Koelnmesse GmbH, international trade fair and exhibition centre located in Cologne, recorded a total sales figure of EUR 350.1 million for 2019, while showcasing a profit of EUR 38.8 million. This successful trade fair organiser’s key areas of expertise are ‘Global Competence in Food and FoodTec’, with trade fairs such as Anuga and ISM, ‘Global Competence in Furniture, Interiors and Design’, with imm cologne and ORGATEC, for example, and ‘Digital Media, Entertainment and Mobility’, which addresses important future-oriented themes at events such as gamescom, photokina and DMEXCO.

The SAGCC has been representing Messe Berlin’s InnoTrans trade fair for several years. With 3,062 exhibitors from 60 countries in 2018, InnoTrans is the...
industry’s leading international trade fair, occupying the entire Berlin exhibition grounds. 153,421 trade visitors from 149 countries filled the 41 exhibition halls, the outdoor display and track area as well as the bus display at InnoTrans 2018 in Berlin. Four South African exhibitors were part of this prestigious event. The next exhibition was scheduled for September 2020, but has been moved to 27-30 April 2021.

Messe München GmbH offers its customers a great platform for successful business, at the Munich home location and around the globe. With a network of affiliated companies in Europe, Asia, Africa and South America and around 70 foreign representations, Messe München also has a successful global presence. With around 1,100 employees, Messe München organises and holds international flagship trade shows and conventions, and hosts guest events, annual general meetings and corporate events including conferences and trainings in its various locations.

Messe München closed 2019 with record sales of 474.2 million Euro. The SAGCC has been representing Messe München in the SADC region for over a year during which time the focus has been on expanding into the region to promote all their trade fairs. In July 2019, South Africa hosted three of Messe München's most successful and leading trade fairs, namely, IFAT Africa, analytica Lab Africa, and food & drink technology Africa. The shows premiered together to create the largest industry-specific trade fair in southern Africa, focusing on analysis, laboratory equipment, water treatment and technologies, food and beverage processing, waste management and recycling. The SAGCC organised a very successful business delegation from the SADC region which provided participants with valuable business opportunities and a great platform to connect with other experts from their respective industries.

**REPRESENTATION OF BADEN-WÜRTTEMBERG**

For the past year, the SAGCCI has been representing the German state of Baden-Württemberg in southern Africa. The Ministry of Economics, Labour and Housing in Baden-Württemberg funds this cooperation. The SAGCCI supports the promotion, expansion and development of economic cooperation between Baden-Württemberg and South African companies and organisations and strengthens existing economic relationships in South Africa.

We assist small and medium-sized companies based in Baden-Württemberg to enter the South African market with first-hand information, local experience and personal relationships. This creates and expands the best possible business opportunities for these companies. The SAGCC also supports Baden-Württemberg companies based in South Africa with specific questions or possible problems.■
The Competence Centre for Mining and Mineral Resources (CCMR) is a key point of contact for German companies in southern Africa and is aligned with the Resources Strategy of the Federal Republic of Germany. The CCMR is active in any southern African country in which mining is a key industry sector, specifically Angola, Botswana, Central African Republic, the Democratic Republic of the Congo, Lesotho, Mozambique, Namibia, South Africa, Tanzania, Zambia, and Zimbabwe. These are the markets that will contribute to the security and diversity of the German resources supply and are also attractive markets for German technology, products, and services. The CCMR is a part of the larger German Mining Network which is a platform for German companies and institutions dealing with mineral resources internationally.

In February, the CCMR set up a booth with Deutsche Rohstoffagentur (DERA) at the 2020 Mining INDABA, which took place from 3 to 6 February in Cape Town. The third German Day at the trade fair was organised to market the German Mining Network in the region and to provide a platform for the German Business community at the well-known Mining INDABA conference in Cape Town. This years’ topic of the German Day was Raw Materials Demand, Technology, and Financing: A German Perspective.

Dr Volker Steinbach from the Federal Institute for Geoscience and Natural Resources (BGR) and Leigh McMaster from the Minerals Council South Africa officially opened the German Day in 2020. In the first session, South Africa’s Raw Material Production was discussed in the context of Germany’s demand. Followed by Innovative Technologies made in Germany for the mining industry. The third and last session dealt with the financing of international mining projects. We are proud that the German Day became an integral part of the Mining INDABA and the next German Day is being planned for February 2021 in Cape Town.

In March, the CCMR held one of the last physical workshops of 2020 in Gelsenkirchen, Germany. The workshop in cooperation with the EnergieAgentur. NRW under the title Africa workshop for the network: Do it better! was the first of its kind. The raw materials sector and digitalisation were both important topics for the participants and reflecting back, it was a resounding success. The speakers conveyed exclusive and current market data and practical expertise for service providers and suppliers in the field of raw materials for entrepreneurs, scientific and expert contacts.

In addition, the CCMR established the Working Group Mining at the chamber. (SA-German Chamber) The committee consists of various companies and institutions from the mining industry as well as research institutions. The committee, which meets at least twice a year, works in four different sub-committees, namely: (1) Legal, (2) Research & Development and Education, (3) Digitalisation, as well as (4) Supply Chain Development & ESD. The overall objective of the committee is to discuss current topics and issues in the mining industry and developing solutions proactively. So far, the Working Group counts around 35 members and anyone who is interested in joining is welcome to do so by contacting the colleagues at the mining department directly.

This year, the CCMR attended various conferences and exhibitions mainly digitally. Nevertheless, also in 2020, the CCMR was able to expand its network and to strengthen its relationships with local organisations, institutions, ministries, and private companies. The CCMR’s service portfolio has grown and more and more companies are reaching out to services like market studies, business partner searches, and special reports. Further, the CCMR expanded its mining-related country portfolio from initial 4 to 11 countries. This initiative was driven by an increasing demand by the German Industry for further market information and mining-related country coverage.
THE HEALTH AND SAFETY PROJECT

German companies and technology are heavily involved in the mining industry in southern Africa and German products and technology are widely utilised at all levels in day-to-day operations. There is thus a call for commitment to health and safety on the part of the companies in the value chain. The Health and Safety Project has been launched to confirm the commitment of German Companies to the wellbeing of workers, their families, communities and wider society. The project supports South Africa’s target of eliminating injurious and fatal incidents by 2020 and transferring this target to the rest of southern Africa. Therefore, the CCMR is facilitating a Mine Health and Safety Project in the Southern African Development Community (SADC).

The first phase of the project was to identify the best mining legislation in the region, best technologies from Germany for Mine Health and Safety application as well as the leading practices as identified and implemented in South Africa by the Minerals Council of South Africa. These were put into a publication called the ‘Health and Safety on South African Mines: A best practice report’ along with content from ISSA Mining, a profile of Lesotho as well as interventions by BASF after the Marikana incident of 2012. The publication is free of charge and available at the CCMR in Johannesburg.

The second phase of the project started at the beginning of 2019. In 2019, five seminars and workshops were hosted in Botswana, South Africa, and Lesotho. The workshops were facilitated in cooperation with the Mining Industry Association (MIASA), The Minerals Council of South Africa, as well as ISSA Mining.

CCMR is very impressed by the high interest in the overall topic and the high number of participants in the workshops in particular. This year, the health and safety workshops focused more on the health rather than the safety part. The reason for this was that the Covid-19 pandemic had an enormous impact on the mining industry in southern Africa.

Although everyone is experiencing the crisis, not everyone is experiencing it in the same way. The pandemic and lockdown had a psychological impact on everyone. The psychological impact on people relates to the psychology field of Pre-Traumatic Stress Disorder (Pres-TSD), a form of anxiety. This in particular, can be very dangerous in stressful industries such as mining. Therefore, the health condition of every single mineworker is very important to ensure an accident-free and safe environment at any mining operation across the region. A single, traumatised mineworker can risk the safety of an entire mining operation, and therefore, it is important to ensure that all mineworkers are physically as well as mentally in good health condition. The workshops facilitated in 2020 are focusing on the health condition of the mineworkers and creating awareness to avoid the worst.

OUTLOOK

The Health and Safety project on its own ends and the CCMR is confident and excited to include the topic of Health and Safety into its daily project work. Further, the CCMR looks forward to its new mining-related country portfolio and providing German companies with first-hand information from the ground to ensure successful business operations in the mining industry in southern Africa.
The Competence Centre Sustainable Energy (CCSE) aims to support businesses from Germany and southern Africa, who seek to participate in the dynamic regional markets for sustainable energy solutions. As a networking and advisory platform, the CCSE offers market intelligence, support in market development, market entry as well as expansion, and access to relevant stakeholders in the southern African power sector. The CCSE is supported by the ExperTS program of the German Federal Ministry for Economic Cooperation and Development (BMZ).

CONTINUED OPPORTUNITIES FOR PRIVATE SECTOR IN THE SOUTHERN AFRICA ELECTRICITY MARKETS
In 2019/20 the electricity markets in southern Africa continued to offer prospects for renewable energy businesses. Although the enabling environment for renewable energy is certainly not flawless, as a recent CCSE business survey among renewable energy companies in South Africa confirms, the escalating tariffs of public power utilities and unstable supply have led to growing business opportunities – in particular for photovoltaic in embedded generation projects, which continued to grow in the entire region.

INNOVATIVE ACTIVITIES, LINKING BUSINESSES AND MARKET INFORMATION
To explore further markets for renewable energy and create opportunities for private businesses, the CCSE expressly expanded its activities related to green hydrogen, fuel cells and sector coupling. Applying the progressive concepts of design thinking and collaborative innovation, the CCSE linked established corporates with start-up businesses in an innovation lab event to develop viable product ideas for the global green hydrogen market. The innovation lab took place in October 2019 and January 2020. Details on the event and the developed product ideas can be found on: www.greenhydrogenlab.co.za.

As part of the business linkage activities in 2019/20, and to support the growing market for biogas in South Africa, the CCSE, together with Southern African Biogas Industry Association (SABIA) hosted a conference on the opportunities for bioenergy in South Africa. The B2B meetings between German and South African stakeholders in the days following the conference illustrated the positive economic and environmental impact of biogas, expressly for businesses that are left with organic waste from their production processes.

In order to provide energy businesses with the fundamental market intelligence the CCSE continued to conduct market information events, e.g., on South Africa, Zambia and Zimbabwe, and compiled freely accessible market studies and fact-sheets on renewable energies in South Africa, Madagascar, Zambia and Zimbabwe. These market studies are available from the CCSE and can also be accessed on the ‘Energy Solutions Made in Germany’ website: www.german-energy-solutions.de.

THE IMPACT OF COVID-19
From March 2020 onwards the global Covid-19 pandemic also heavily affected the renewable energy sector in South Africa. About 90% of the respondents in the CCSE business survey stated that projects have been impaired or halted due to the pandemic. However, as the issue of reliable and low-cost energy supply remains crucial for South African’s economic competitiveness, we trust that Covid-19 is going to only have a short-term negative effect on the renewable energy development.

In response to the Covid-19 restrictions the CCSE has been able to shift most of its activities to online formats and is working on novel digital tools to continue our support of the sustainable energy industry in Southern Africa in this challenging times.

The CCSE team would like to thank all our partners for their support and cooperation. We are looking forward to our continuous collaboration. Please do not hesitate to contact us if you are interested in tapping into the southern African energy markets. You are welcome to make use of our network and services.

Jens Hauser
Head of Competence Centre Sustainable Energy; Manager for Sustainable Energy – SADC
Tel: +27 (0)21 422 5577
jhauser@germanchamber.co.za

Themba Msimang
Project Manager, Industry and Sustainable Energy
Tel: +27 (0)21 422 5577
TMsimang@germanchamber.co.za
Vocational Training has never been more important. Unemployment has sky rocketed since the Covid-19 outbreak and the damage this pandemic has caused will take several years to restore. During Chancellor Merkel’s official state visit to South Africa on 6 February, 2020, President Ramaphosa stressed the importance of education to boost economic growth and create jobs. This is where the dual vocational education and training (dt.: Ausbildung) approach shows its true value. The apprentices (dt. Auszubildenden) spend 70% of their training time within their companies as apprentices and are thus a valuable part of the team from the beginning of their careers. They spend the rest of their training in the training school, where their practical learning is sustained by theoretical fundamentals. Through this learning by doing approach, they develop into skilled and well-rounded individuals.

TRAINING – BUSINESS ADMINISTRATION, MECHATRONICS AND LOGISTICS

2020 has been an exciting year for the Competence Centre: Training and CSR. For the first time, three dual vocational training programmes are running in parallel. Thirty apprentices in eight companies are currently working towards becoming qualified Business Administrators, within this two-year SAGCC flagship programme CATS (Business Administration).

The Mechatronics programme is providing 14 apprentices with a unique, hands-on experience. Seven companies, in cooperation with the Automotive Industry Development Centre (AIDC) in Rosslyn, are educating these apprentices.

The newest addition, the three-year Freight Forwarding and Logistics Dual Vocational Training Programme, commenced in 2020 in Johannesburg, starting with a one-month Introduction and Bridging Programme at Metro Minds (Johannesburg). The German Federal Ministry of Economic Affairs and Energy’s (BMWi) Skills Expert programme is supporting this new initiative within South Africa. Twenty learners in eight companies have started their Freight Forwarding and Logistics journey.

As the rest of the world, the Covid-19 pandemic also took the CC: Training and CSR by surprise. In an effort to provide apprentices with a continuous and high-quality learning experience, even during lockdown, the SAGCC Education and Training Advisory Committee decided to keep the programmes running. The SAGCC provided all 64 learners with SIM cards and data bundles to enable the use of eLearning platforms and access to their online classes, which has minimised delays. A new website and a learner portal has been in development – a centralised platform for all things Training.

A number of Online Series took place from July to September, where the Dual Vocational Training concept was introduced to Southern Africa and beyond, as well as two additional potential dual vocational training programmes. These Online series enabled us to bring together industry and discuss the needs within Southern Africa. Here it became clear,
that in collaboration with existing Southern African Institutions, a Dual Vocational Training approach for the Water and Sanitation Sector, as well as the Agriculture Sector is of great interest. With these industries thriving in Southern Africa, even in light of the Covid-19 impact, further market research is currently taking place.

**TRAIN THE TRAINER**

Due to high demand in 2019 of the Train the Trainer training or German Mentor Aptitude Training (AEVO), this year several successful trainings took place. Bringing stakeholders together from all industry this training has proven a highly interesting and interactive course, creating valuable expertise and tools on successful guidance of apprentices and employees. To date we have trained 29 Mentors/ Experts in the fields of Business Administration, Mechatronics and Logistics and Supply Chain. These Mentor/Experts also serve further as our Examination Board Members and ensure that we keep our dual vocational training programmes current to the industry requirements.

**PARTNERSHIPS**

Chancellor Angela Merkel’s state visit to South Africa in February 2020 underlined Germany’s commitment to collaboration, especially in the field of technical and vocational education and training (TVET). During the visit, Germany and South Africa signed an initiative to promote TVET. The two countries are currently working on a South African strategy. Stakeholders in the Education Roundtable include KfW, the German Embassy Pretoria, GIZ and the SAGCC. An exciting development has also been the continuous partnership with the Porsche Aftersales Vocational Education (PAVE) Programme, collaboratively providing quality training and assessments for the automotive after sales industry. The inspirational partnership between the Bildungswerk der Bayerischen Wirtschaft (bbw) and several TVET Colleges in Gauteng is working on capacity development through training of mechatronics lecturers. South Africa is aiming to improve professional qualifications of TVET college lecturers, inspired by the German dual system, leading to the registered mechatronics Technician Qualification (NQF5). Ensuring that the training provided corresponds to the actual needs and applications of the industry the SAGCC is supporting the initiative.

**OUTLOOK**

Dependent on the Output of the Market Research conducted the new dual vocational training programmes for the Agriculture and Water and Sanitation Sectors will be implemented in 2021. In cooperation with the Western Cape Government and Hope Cape Town the Freight Forwarding and Logistics Programme will be expanded to Cape Town, as well as Durban. Train the Trainer courses will also take place in 2021. After a year of many uncertainties where the country pulled, together and much positivity arose out of the unknown, the CC: Training looks forward to pursue 2021 with the same force and collaboration with the industry as 2020. Please contact us if you are interested in our dual vocational training initiatives.

**Isabella Hlabangu**  
Head of Department  
Tel. +27 (0)11 486 2775  
cats@germanchamber.co.za

**Amelie Volk**  
Skills Expert Office  
Tel. +27 (0)11 486 2775  
avolk@germanchamber.co.za

**Boitumelo Mokgosi**  
Training Office Administrator  
Tel. +27 (0)11 486 2775  
info.cats@germanchamber.co.za

**Taurai Gumbo**  
Operations Manager  
Tel. +27 (0)11 486 2775  
catsoperations@germanchamber.co.za
Looking for modern solutions in hazardous areas?

**EX 4.0 – THE NEXT LEVEL OF EXPLOSION PROTECTION**

We are showcasing future-proof solutions for your specific requirements under the banner of “EX 4.0 – the next level of explosion protection”. R. STAHL is a leading provider of explosion protection solutions with a high degree of reliability and quality – be it junction boxes, light fittings, switches, Ex d / Ex p solutions, HMs, cameras as well as interface and Fieldbus systems.

For further information: r-stahl.com

R. STAHL SOUTH AFRICA (PTY) LTD., E sales@Rstahl.co.za, T +27 11 608 3120
Southern Africa faces increased water scarcity as demand escalates because of population growth, urbanisation and unsustainable water-use. Dwindling water supplies due to pollution and ecological destruction of water resources, as well as climate-change-induced changes in rainfall patterns, further intensify water scarcity. Technological solutions to improve water management and promote a circular water economy are critical to sustainable development. The German water sector has many years of experience in developing, installing and maintaining advanced technologies and can support southern Africa in overcoming the water management and sanitation crisis.

The private sector is typically a strong driver of innovation, which is exactly what is required in the fields of, inter alia, water and wastewater treatment, hydrological and meteorological monitoring, wastewater reuse and the exploitation of alternative water resources. Accordingly, the Competence Centre: Water Management (CC:WM) was established at the Cape Town Regional Office in March 2019. The activities of the CC:WM are partly subsidised by the Federal Ministry of Economic Affairs and Energy (BMWi). The CC:WM promotes bilateral exchange of technology and know-how between Germany and southern Africa in water management, encompassing the entire water value chain from source to wastewater treatment.

The objectives of the CC:WM are to:

- Conduct market analyses and provide market information.
- Support companies in market entry and market expansion.
- Implement initiatives geared towards sustainable water sector market development.
- Represent the water sector, and provide a network and cooperation platform.

**CHALLENGES AND OPPORTUNITIES**

In southern Africa, public (centralised) and private (decentralised) water supply and wastewater treatment and associated products and services are chronically underfunded. In South Africa, approximately half of the municipal water and wastewater treatment facilities are either in poor or critical condition or completely dysfunctional. The National Water and Sanitation Master Plan published in December 2019 highlights that the water and sanitation sector requires capital investments amounting to 90 billion Rand per year to achieve Sustainable Development Goal 6: Ensure availability and sustainable management of water and sanitation for all by 2030.

Currently, only 57 billion Rand is available in South Africa’s national annual budget, leaving a funding gap of 33 billion Rand per annum. This highlights the importance of developing and implementing viable public private partnership projects to reduce capital expenditure requirements for the public sector.

Eleven water and sanitation projects valued at 106 billion Rand were gazetted on 24 July 2020 under Strategic Integrated Project (SIP) No. 19 in terms of the Infrastructure Development Act, as amended (Act No. 23 of 2014). SIPs are fast-tracked by mandating a shorter approval period (56 days) for government permits and licenses (e.g., rezoning, environmental authorisation, water use licenses), which can take up to three years to complete.

The need for innovation, investment, and collaboration creates niche market opportunities for German Small and medium-sized enterprises (SMEs) in the southern African water sector. Challenges and barriers to doing business in southern Africa remain, however. Not least of these is the capacity of local government institutions to procure and finance new technologies from foreign companies.

The CC:WM assists companies in overcoming the barriers of entering a new market through insider knowledge, a strong sector-relevant network and technical expertise so that mutually beneficial agreements can be achieved to boost local capacity with economic and environmental benefits.
THE IMPACT OF THE COVID-19 PANDEMIC

The importance of water and sanitation for all (SDG 6) was thrust into the limelight during the Covid-19 pandemic when hand-washing was considered an important mechanism to slow the spread of the virus. Fears of transmission via the sewer system or from poor sanitation conditions were fortunately not confirmed but reignited publicity around the plight of a large part of the population of southern Africa.

The deepening economic crisis on the back of the pandemic is likely to affect the balance sheet of local municipalities in southern Africa. A proportion of the population will no longer be able to afford water and sanitation bills due to job losses and resulting economic hardship. Support from the national governments will be needed to prevent a further decrease in funds to provide water and sanitation for all.

INITIATIVES AND PROJECTS IN 2019-2020

Zambia’s water sector is in dire need of investment to improve water supplies and sanitation for its growing population. Against this backdrop, the Federal Ministry for Economic Affairs and Energy funded a German business delegation to Zambia in November 2019 as part of the market development programme for SMEs. The German Water Partnership e.V. supported the project as a cooperation partner. One of the core elements of the project was the creation of a target market analysis.

In September 2020, the CC:WM completed a virtual delegation to Germany in partnership with the German Water Partnership e.V. (GWP). The ‘fact-finding’ mission was funded by the German Federal Ministry for Economic Affairs and Energy as part of the market development programme for SMEs. The delegation comprised of decision-makers, importers and multipliers from South African and Namibian SMEs in the water sector. The central elements of the digital fact-finding mission was an information and presentation event organised by the GWP, online sessions and expert panels on German water and wastewater management technologies, as well as digital visits to reference projects.

Skills shortages in the public and private water and wastewater sector are among the main obstacles to sustainable water management in South Africa. The Chamber is committed to contributing towards bridging the skills gap in the water sector, which is evident in the implementation of two projects.

First, the Brazilian ‘International Water Manager for Industries’ (in short IWAMI) developed by the AHK São Paulo was internationalised, translated into English and is currently being fully digitalised. The German development agency GIZ funded both projects through the ExpertS Programme. The objective of the IWAMI is to improve water and wastewater management in the industrial sector by building technical capacity of staff responsible for purchasing, operating and maintaining water and wastewater technologies. This course will first be marketed to South African industries, and if successful, will be rolled out internationally.

Second, the CC:WM is currently supporting the Training Competence Centre in establishing Dual Vocational Training for the Water and Sanitation Industry in South Africa. In doing so, the Chamber is seeking input from and collaboration with the water sector to ensure that the curriculum is current and relevant to the sector. Please refer to the Training Competence Centre report on page 49 for more information on this project.

Effective water resources management is inherently cross-sectoral and the CC:WM therefore envisions more intensive collaboration with the other Competence Centres of the SAGCI in future. Scope exists for collaboration with the Mineral Resources Competence Centre in achieving better water management in the mining industry. The mining sector relies heavily on water resources and at the same time poor water resources management can pollute large water reservoirs (underground and surface). Sustainable water management in the mining sector requires hydrological planning, pollution prevention and water reuse involving a variety of technological solutions. By extension, a cross-sectoral approach to establishing a working group to guide the centre’s future activities could indeed be beneficial.

Vera Massie
Project Manager
Tel: +27 (0)21 422 5577
vmassie@germanchamber.co.za
Digitalisation and automation are central to greater water-use efficiency and facilitating efficient use of other resources in a flexible and economically competitive manner. Much of the focus is on real-time monitoring, integrated data collection and processing, data-based decision-making and cloud-based operations management. Such a paradigm shift has the potential to save costs, while encouraging time-appropriate skills development and modern employment opportunities.

by Vera Massie, Project Manager: Water Management Competence Centre

Manufacturing and industrial practices have experienced ongoing automation since the beginning of the 20th century (3rd industrial revolution). Industrial processes are becoming more and more efficient due to continuously evolving technology. The beginning of the 21st century marks the advent of the so-called 4th Industrial Revolution, which can be described as the advent of ‘cyber-physical systems’ involving entirely new capabilities for people and machines.

Twenty years later, many industries have embraced digitalisation. In South Africa, the automotive, media and entertainment, and banking industries are considered pioneers in this fast-evolving revolution.

The water sector is constantly adapting to meet the challenges of growing water scarcity and sustainable development. The German Water Partnership e.V. recently coined the term Water 4.0, which defines the role of the fourth industrial revolution in the water sector. Since then, there has been a plethora of reports and magazines discussing the digitalisation process of the water sector.

**WHAT DRIVES DIGITALISATION OF THE WATER SECTOR?**

Digitalisation of the water sector is driven predominantly by the need to use resources more efficiently, saving costs, as well as regulatory changes, which demand improved environmental performance, monitoring and reporting.

1. **Increase efficiency** Digitalisation can reduce resource consumption in water and wastewater treatment by reducing energy requirements and chemicals used for the treatment of water and wastewater. Infrastructure maintenance can become more efficient, especially regarding the distribution of potable water and centralised collection of wastewater. Efficient communication with paying customers via cell phone applications increases customer satisfaction and improves revenue collection.

2. **Save costs** Real-time surveillance of water consumption and wastewater disposal can optimise operation and maintenance activities based on demand. Costs can be saved when reducing resource consumption (e.g. energy and chemicals), as well as when infrastructure is well maintained and its life span is extended.

3. **Regulatory requirements** Regulatory requirements are becoming increasingly strict as water resources become scarcer with the dual challenge of climate change and urbanisation. Water resources management involves reducing water consumption (domestic as well as industrial), while also reducing pollution of precious water resources. Digitalisation can assist the water sector in improving both aspects of water management and help meet regulatory requirements.
Digitalisation of the water sector is still in its infancy in southern Africa. Public water and wastewater treatment facilities are mostly still analogue with no digital strategies or technologies in place. However, some of South Africa’s water utilities, such as Umgeni Water (Durban), learned from the drought experienced in Cape Town and implemented digital technology to improve water resources management. Hydrological models coupled with monitoring devices were installed to optimise water storage in supplying dams and reservoirs. Initially, digitalisation at Umgeni Water was driven by the need to improve efficiency, process optimisation and resilience. Clear returns on investments demonstrated by realised digitalisation projects lead to the full integration of digitalisation into the business strategy at executive level.

In many cases, the lack of capital investment can be a hindrance to catapulting existing and new public water and wastewater treatment facilities into the digital age. South Africa faces a funding gap of R33 Billion per annum to achieve Sustainable Development Goal 6 – ‘Ensure availability and sustainable management of water and sanitation for all’ by 2030.’

The solution could lie in mobilising the private sector to invest into more efficient, digitalised infrastructure. So-called public private partnerships involve long-term service level agreements that inherently require real-time monitoring of demand, consumption and environmental performance indicators.

The transition of the water sector from predominantly analogue to fully harnessing ‘cyber-physical systems’ means that the water sector must not only collect data but also harness artificial intelligence to improve decision-making and optimise resource use. The 4th industrial revolution in the water sector does not only involve the technology itself, but requires the people working in the sector at all organisational levels to adapt, learn and change their way of doing business. Principles of the 4th Industrial Revolution must be included in the curriculum that produce technicians and engineers who design, install, maintain and operate infrastructure in the water sector.

---

4IR, or the Fourth Industrial Revolution, is often seen as an enigma and panacea. What is it? Why is it important for the region? And how far are we really away from implementing 4IR?

In essence, 4IR is about 'physical' (or tangible) objects being linked to the 'digital' or cyber world. By overlaying the two perspectives, a new digital-physical or digitalised world is created. This leads to, inter alia, a phenomenon called 'digital twinning', where the physical world will increasingly be managed, monitored, improved and actioned by information technology. Arguably, 4IR will have a greater impact on humanity than any of the industrial revolutions before.

Dr Harry Teifel,
harry.teifel@progresssusdigital.com
As with all revolutionary ideas, the world cannot adjust overnight. History is full of examples where epochal change creates new winners and losers. The same applies to 4IR, which should be seen as an umbrella concept for various digitalisation off-shoots such as Robotics, Artificial Intelligence, Internet, 3D Printing and others. So how will 4IR change occur and change southern Africa?

Change typically occurs in four stages. Initially adoption is limited and eyed with scepticism. At some point, organisations that have adopted new 4IR systems/practices successfully convert these into higher competitiveness. This leads to a higher competitiveness baseline – with the adopters of technologies having an advantage relative to non-adoptees. Finally, non-adoptees can no longer keep up with the higher level of competitiveness and a shake-out occurs. The process repeats itself. From a Southern African perspective, a 4IR shake-out is coming and will affect one industry after the other.

A transition to 4IR does not happen by default: it requires dedicated focus, investments, strategic thinking, extensive collaboration and a mind-set change. What does this mean for South Africa in particular?

In a study performed for an international Development Agency, the following conclusions were reached:

1. There is a significant variance in the digitalisation maturity level of different role-players in South Africa;
2. The SA government clearly seems to be aware of the need to act;
3. There are very innovative and ‘pro-active’ 4IR companies in South Africa in various sectors;
4. Service providers and technology suppliers benefit from globalised product and knowledge exchanges; and
5. There are a large number of so-called ‘re-active parties’, which seem to be caught up in their current paradigms with seemingly no inclination to implement 4IR.

So how does one deal with the challenge of SA as a whole needing to dramatically accelerate its shift to a 4IR world? Philosophically, the problem is one of ‘push’ and ‘pull’. Although non- or slow adopters can be ‘pushed’ and supported to become 4IR-ready – the actual decision to move is taken by the organisations themselves. What is usually more impactful, is when market conditions ‘pull’ or force organisations to adapt in order to stay relevant. Whatever the mechanism chosen, Southern Africa is in a race against time to secure its future in a digitalised 4IR world.
A transition to 4IR does not happen by default: it requires dedicated focus, investments, strategic thinking, extensive collaboration and a mind-set change. What does this mean for South Africa in particular?

Dr Harry Teifel
harry.teifel@progressusdigital.com
www.progressusdigital.com
www.agriverse.co.za
The Fourth Industrial Revolution (4IR) has necessitated that countries develop new policies, strategies and innovation plans to enable an inclusive whole-of-society approach, with government taking a leadership role. In South Africa, the Presidential Commission on 4IR produced a blueprint that identifies the key stakeholders and their fields of priority. While the discourse on the 4IR is usually dominated by the role of government, the private sector and other stakeholders in civil society also have a significant role to play. The 4IR manifests itself through technological innovations, while its impact cuts across all levels of society hence the need for a broader perspective and approach (Government Gazette 4 December 2018).

In Germany, the focus lies on Industry 4.0 (I4.0) with a drive to (decentralised) digital manufacturing. Technology (within their broader High-Tech Strategy) plays a leading role to drive prosperity and maintain citizen’s quality of life. It leads to superior and efficient manufacturing and is based on lots of private/public partnerships in experimental research. This typically open framework has got some regulation, in particular financial services and data management.

A distinction needs to be made between Industry 4.0 and 4IR. Industry 4.0 relates to digitalisation of manufacturing that uses cyberphysical systems. It is one of South Africa’s benchmark models for future implementation of the country’s strategy on 4IR; its impact cuts across all levels of society.

The AHK Working Group Industry 4.0 sits at the forefront of this technological transition and is an active participant in the policy definition of these new technologies to the benefit of the South African economy and all its people. A wide variety of participants from the chamber’s membership has been participating in several interactions with government and the private sector. It is a competent platform for companies in the fields of digitalisation, connected industries and vocational training. It is a group in which the presentation of the German – South African industry and public perception is discussed and it is an information exchange platform for its participants.

The topics the working group is focusing on are:
- Technology and Application Scenarios
- Education and Training
- Digital Business Models
- Development of SMMEs in a digital world
- Telecommunication infrastructure with a focus on the last mile, called 5G

International collaboration is imperative for the success of the working group in an emerging market such as South Africa. Hence the reason the working group also opened up its activities to other bilateral chambers of the EU, under the governance and guidance of the EU Chamber. Part of this process of transition of the working group is the extension of its mandate from I4.0 towards 4IR. At the same time, assisting South Africa in positioning the country as the key technology driver for the African continent is part of the sustainable application of the new technologies.

The Digital Industrial Revolution offers huge opportunities for South Africa and its people. Globally, the 4IR train has left the station. The question is not whether, but when and how, South Africa will participate in this global paradigm shift.

Marc Van Pelt
Managing Director – Pepperl+Fuchs
Chairperson, Working Group Industry 4.0
Your automation, our passion.
It is a truism that the Fourth Industrial Revolution (4IR) – from robotics, algorithms, and simplistic chatbots replacing human beings, to data analytics – is deeply misunderstood. What is required is a deep societal understanding of the pervasive nature of the 4IR that is not an event with a finite beginning and end but can be seen as a series of fortunate events, with apologies to Lemony Snicket.

Professor Tshilidzi Marwala  
Deputy Chairman of the Presidential Commission on the Fourth Industrial Revolution

Although many remain wary, it is a given that the world as we know it is fundamentally changing. Industrial revolutions have brought with them social upheaval but also innovations and change.

We have also learned that revolutions are not neutral. For instance, the first industrial revolution was met with fierce opposition by the Luddites, groups of English workers who organised into a form of a union and set out to destroy any machinery they believed would threaten their jobs. In retaliation, many were arrested and executed. Yet, despite the opposition of the Luddites, the first industrial revolution marched on, and the Luddites faded into obscurity. Some have parochial understandings of the revolution, working on the assumption that it is something that can be averted or avoided. Our very understanding of normalcy in society today is a world which has embraced the revolution has been exposed and interrogated. The fields of commerce, banking, trade and economics have complex interdependencies that are only possible through big data and artificial intelligence (AI), for instance.

On many occasions, we have lagged behind in our ability to adapt and respond to industrial revolutions. South Africa still grapples with this legacy. Yet, unlike the previous industrial revolutions, we cannot afford to be left behind. Commitment to the 4IR is not merely rhetoric but rather, necessary for us to realise our economic fortunes. In a country already plagued by the legacy of state capture, with a dwindling economy and mass unemployment, there is much to be gained from the 4IR. It has the potential to counter slow economic growth and lagging productivity. Importantly, however, South Africa now has to position itself in such a way that we are ready for this transformation. We risk falling further behind if we don’t.

Herein lies the crux of the work of President Cyril Ramaphosa’s 4IR commission, which was established in 2019 and of which I am deputy chair. The role of this commission is to assist the government in taking advantage of the opportunities presented by the digital industrial revolution. This, of course, requires collaboration between the government, the private sector, the unions, and civil society to be effective.

HOW DO WE MAKE THE MOST OF 4IR?
Firstly, the government needs to prioritise a redesign of the human capacity development ecosystem in order to link our entire pool of potential employees into productive and decent work. In order to achieve this, a comprehensive view of the entire human capital system must be developed, and the leverage points which can be accelerated by 4IR need to be identified. This will be facilitated at the Human Resources Development Council, assisted by the 4IR committee and driven by the Digital Skills Forum, which will include timeframes on deliverable objectives.

Through the adoption of a skills revolution, both primary and secondary students must, at the least, be skilled with communication (both verbal and written), logical and numerical skills. These skills should feed into the ability to code, think computationally and have a holistic approach to problem-solving.
Tertiary education must become multi-disciplinary where the curriculum blends science and technology with human and social sciences for all students.
‘Commitment to the 4IR is not merely rhetoric but rather, necessary for us to realise our economic fortunes. In a country already plagued by the legacy of state capture, with a dwindling economy and mass unemployment, there is much to be gained from the 4IR.’

The second recommendation is to develop ‘The National Artificial Intelligence Institute’ that focuses on the application of AI to health, agriculture, finance, mining, manufacturing, and government as well as regulations. It would be responsible for keeping abreast of and support capacity building in: Neural networks, Natural Language Processing and Computer vision, among others. To spur the industrial and research applications of AI, we need to make high-performance computing available for widespread use. This institute will focus on research and development, as well as implementation capabilities in AI. A mandate to include training will bolster the investment in human capital. In order to achieve this, the government would need to establish the institute within one of its existing structures. Then, the business would need to collaborate on implementation of the institute’s programmes while labour unions drive training on AI.

The third recommendation is to establish a platform for advanced manufacturing and new materials. Manufacturing is the country’s fourth-largest industry and contributes 14% to the gross domestic product (GDP), making it an important job creator and imperative for South Africa’s global competitiveness. In the context of the 4IR, however, it needs to be supported by a state-led research initiative to grow the manufacturing sector, develop and apply new materials through the technologies of the 4IR with electric cars, for example. Similarly to the proposed AI institute, this requires collaboration across government, business, labour and civil society.

The fourth recommendation is to secure and avail data to enable innovation. This is critical for building e-government services across sectors such as health, transport and justice. This could be achieved through the creation of the National Data Centre which consolidates the available computational power and creates a national data centre that will become the national data repository for all of our data, including health data. This can be done alongside existing data centre companies. However, cybersecurity needs to be bolstered in order to safeguard the public. Already, the government has an existing cybersecurity company called Comsec, linked to the National Intelligence Agency, which was established in 2003 and to secure the government’s communications against any unauthorised access and also from technical,
a series of fortunate events

electronic or any other related threats. In order to be competitive in the 4IR, the government would need to strengthen Comsec’s to include cybersecurity. A cross-departmental Chief Data Officer could facilitate this. The private sector could engage with the government on critical datasets required for innovation and service delivery collaboration and perhaps share their own data sets with the government. Academic institutions, of course, will be an important pillar on data best practices and ethical data sharing.

The fifth recommendation is to incentivise future industries, platforms and applications of 4IR technologies. This means that companies should be incentivised to use 4IR technologies to improve South African competitiveness. These incentives should include tax breaks and support for research and development using organisations such as the Council for Scientific and Industrial Research, National Research Foundation, Medical Research Council, and the Agricultural Research Council. This would support the acquisition and application of advanced technologies in the manufacturing of goods and delivery of services. Part of this will include additional support to develop new SMMEs and grow existing ones in the 4IR space to develop solutions that address South Africa’s development challenges ultimately. In order to achieve this, the ease of doing business needs to be improved, including such tasks as registering a patent, reducing the cost of 4IR businesses with regards to customs and taxes and enabling ease of global competitiveness and expansion. The government will need to establish appropriate incentives, cognisant of the country’s precarious fiscal position.

The sixth recommendation is to build 4IR infrastructure, which integrates with existing economic and social infrastructure. We need to look at the generation and delivery of energy, the extension and improvement of water infrastructure and health and educational infrastructure to create a coherent and comprehensive infrastructure network. The first step would be for the government to develop a comprehensive set of infrastructure priorities for the country with achievable timelines. In 2012, the government adopted the National Infrastructure Plan as a job creator and to strengthen the delivery of basic services. However, much of this needs to be done with urgency as infrastructure is integral to the 4IR. Businesses can play a vital role in engaging with the government on infrastructure projects that can be tested and scaled. At the same time, labour unions can facilitate any negotiation deadlocks that prevent timeous project rollout.

The seventh recommendation is to review, amend or create policy and legislation. In order to ensure our legislations are in line with the 4IR, parliament should look at all our legislation and update them in line with the 4IR. This would require the legislature and the state executives to be trained to become 4IR and science-literate to implement changes. In particular, the generation of intellectual
property rights stands out in this context as the principle of a creative and knowledge economy implies the rapid production of new technologies, artefacts and processes for commercialisation and scale. This will include relooking at our tax laws so that they bring platform companies such as Uber and Airbnb into our tax regime.

The eighth and final recommendation is to establish a 4IR strategy implementation coordination council in the presidency which will coordinate government departments responsible for 4IR related programmes. In addition to this, the council will coordinate initiatives across the public and private sectors, labour and academia. This will require resourcing and budget allocation aligned to the mandate in order to ensure that there is a single point of coordination with government departments for the council. This, of course, needs to be achieved against the context of a weak fiscal position. Growth has remained below the government’s target in the National Development Plan, which serves as the country’s economic blueprint, consistently since the 2008 global financial crisis. Unfortunately, this limits the state’s capacity to directly invest in and take ownership of the industries it may choose to support. However, collaboration across the public and private spheres could be the answer, but the state would need to leverage and build on its relationships. It is important to note that while this will be led and regulated by the government, it is not solely a government programme. As the Nigerian poet Ben Okri once said, ‘We have not yet arrived, but every point at which we stop requires a redefinition of our destination.’

Prof. Tshilidzi Marwala
Vice-Chancellor and Principal, University of Johannesburg; Deputy Chairman, Presidential Commission on the Fourth Industrial Revolution

SCHAUENBURG Systems is an Original Equipment Manufacturer with branch-offices all over South Africa.

It provides solutions for enhanced safety and productivity in mining and industrial markets. By pooling vast internal engineering expertise and access to external competence it lives up to its brand-promise of “Innovation that Saves”.

It has established itself as an active partner for digital transformation like for the upcoming requirements of the “Connected Worker”.

Schauenburg Systems (Pty) Ltd
26 Spartan Road, Spartan Ext.21
Kempton Park, 1619  |  Tel: +27 (11) 974-0006
Email: sales@schauenburg.co.za
NEW DEVELOPMENTS FOR INDUSTRY 4.0

The recently launched Festo eXperience centre at the Johannesburg offices plays a vital role in industry 4.0. It does not only exist to upskill young people with customised technical solutions, but it also serves as a facility that tests applications for engineers. The centre features a demonstration hall with some of the latest dynamic displays, innovative testing equipment, a virtual robot at the entrance that welcomes all the visitors as well as the renowned Cyber-Physical (CP) Factory.

The CP Factory is another aspect of smart solutions used to prepare customers for changes that will transpire in the near future. It is a comprehensive, modular and expandable Industry 4.0 'smart factory' model which can be used to represent the entire value chain. Training areas such as assembly line, logistics, production, production planning and control/MES (Manufacturing Execution System), lean production and quality assurance can also be represented by this model, including via Virtual Reality.

The core of the system is its modularity, which enables great flexibility by combining modules in different configurations for training in a variety of applications. The use of standard interfaces for each application module allows the modules to be interchanged in just a few minutes. Application modules can retrieve and execute processing jobs individually using the unique RFID provided identification and digital product memory of each piece, facilitating flexible production. The machine collaborates with humans for tasks such as using bar codes to scan parts moving on the production line.

Festo also offers courses in Industry 4.0, for applications in practice, which helps attendees establish ways to integrate typical Industry 4.0 applications into vocational training courses using the CP Factory. It is part of a holistic 'learning factory' solution that can be used to qualify personnel in the operation of a particular production process or a specific field of work, such as production technology.

BIONIC FLOWER – AN EXPANDED APPROACH TO PROMOTING VALUABLE SKILLS

Part of Didactic's mandate is inspiring young people to learn with new digital solutions that will also prepare them for the future. This year, they released a Bionic Flower, which is a construction kit inspired by the plant world. 'The flower was developed following the models of mimosa plants and water lilies in cooperation with SkySpirit' added Horst. It opens and closes its petals as a reaction to external influences such as touch, proximity or light. These mechanisms can be discovered in a playful way by pupils in the classroom using sensors and control technology integrated in the Bionic Flower.

The design, as well as the transfer of principles from the plant world, rounds off the teaching of curriculum topics in STEM education (Science, Technology, Engineering, and Maths). Students learn different aspects of STEM with the Bionic Flower – in a digital, creative and interdisciplinary way. The Bionic Flower combines bionics and technical education and is thus based on the competencies of the 4Cs: Collaboration, Communication, Critical thinking and Creativity to empower learners for the digital world of tomorrow.
Virtual Exhibition in Real-Time

Adding to the innovative learning solutions from Didactic, Festo introduced their first-ever virtual exhibition themed ‘Smart. Flexible. Digital’. Festo presented their latest technologies, solutions and training programmes for the production world of tomorrow at their innovative virtual stands, including the Bionic Flower. From training and engineering to the operation of plants, Festo showcased new ideas for system automation. Visitors also learned about new possibilities that collaborative robotics will bring to the working world of the future and how customers can increase their energy efficiency with smart products.

Industry 4.0 is transforming every aspect of operations in the automation industry. Festo is helping customers adapt to these changes while also enhancing their competitiveness. ‘Technological advancements, the availability of Industry 4.0 technical training and equipment are a clear indication that change is accelerating and we are thrilled to support our customers through our innovative solutions’ concluded Horst.

For more info, contact marketing on 08600 FESTO (33786) or email marketing.za@festo.com www.festo.co.za.

The Bionic Flower combines bionics and technical education and is thus based on the competencies of the 4Cs: Collaboration, Communication, Critical thinking and Creativity to empower learners for the digital world of tomorrow.
THE ROAD TO INDUSTRY 4.0: CYBERSECURITY CHECK-POINT

The negative impact of Covid-19 is felt by all businesses (at least those that remain afloat despite the current economic recession) across all industry sectors. Surviving businesses find themselves operating in a very complex and highly competitive environment with ever shrinking margins. The whole world is now looking to the data-driven fourth industrial revolution (4IR), also known as Industry 4.0, to turn the tide towards an overall positive growth outlook.

Industry 4.0 ushers in the necessary change to disrupt the traditional way of doing business. The rise of Industry 4.0 is dismantling traditional boundaries between Information Technology (IT) as part of the cyber-world, and Operational Technology (OT), as part of the physical world. These once distinct and separate worlds are fast converging to form a highly versatile and unified cyber-physical world characterised by advanced digitalisation. To remain afloat and relevant, businesses must quickly move to embrace the new wave of digital transformation and appreciate the benefits presented by the emerging converged cyber-physical world of Industry 4.0.

As businesses transition to embrace digital transformation, it is important for them to also ensure that the entire Industry 4.0 ecosystem is adequately protected to manage the inherent cybersecurity risks posed by 4IR technologies. The converged cyber-physical world increases the attack surface and provides adversaries with more low-hanging fruits, as more Internet-enabled objects with no security mechanism get hooked to the already vulnerable Industrial Internet of Things (IIoT). Consequently, this raises unique cybersecurity challenges.

Industry 4.0-specific cybersecurity threats are slowly emerging and include old techniques of deception, malware, ransomware, distributed denial of service and others. These may have already been dealt with in the cyber-world of IT, yet they pose catastrophic consequences for converged cyber-physical world of Industry 4.0 solutions. The impact in 4IR may vary from loss of production, financial loss, reputational damage and may even result in loss of lives, more especially when they compromise industrial control systems in autonomous driverless vehicles, energy or water treatment plants.

Therefore, there is now a surging need to improve cybersecurity measures to defend against cybersecurity threats, reduce the attack surface and provide a safer and resilient Industry 4.0 ecosystem. A safer and resilient Industry 4.0 ecosystem relies heavily on end-to-end data-centric cybersecurity that facilitates a secure exchange of data across the entire value chain. This cannot be achieved without an end-to-end trustworthy Industry 4.0 ecosystem.

Fundamentally, the trustworthiness of Industry 4.0 hinges on the concept of zero-trust. A zero-trust approach to securing the Industry 4.0 will ensure that only authorised users, devices, systems and applications are granted appropriate access to accurate data in order to process them in an authorised manner. This requires appropriate identity and access management.
mechanisms to verify the identity of both senders and recipients (this may be humans or machines or processes or sensors) of data, identity of devices used to access the data and identity of applications and processes that handles the data. This goes beyond traditional user authentication systems to include a root-of-trust mechanism of authenticating machines, applications and systems before they can be allowed to connect to the networks or manipulate data. It can only be achieved by secure digital identities (of humans, machines and processes) across the entire Industry 4.0 value chain.

In the data-driven Industry 4.0, it becomes even more important to have cybersecurity mechanisms to ensure the authenticity, correctness, completeness and accuracy of the data at rest, in transit, during processing, and for the duration of its lifecycle. This deals with the integrity aspect of cybersecurity, which has since become more important in the advent of the data-driven Industry 4.0. It is not just the integrity of the data that is being crunched for insights, but also that of the artificial intelligence and machine learning algorithms, systems and processes that use it, and which must also be protected. Therefore, preserving the integrity of data, algorithms, systems and processes is one of the pillars required to realise an end-to-end trustworthy Industry 4.0 ecosystem.

A secure, resilient and trustworthy Industry 4.0 must be built on top of zero-trust cybersecurity architectures with integrated cybersecurity solutions to ensure that only authorised users using authorised applications on authorised devices are allowed onto the IIoT that facilitates Industry 4.0. Surely, the digital transformation route to Industry 4.0 must pass through the cybersecurity check-point and there is no by-pass.

Dr MT Dlamini
Senior Cybersecurity Researcher – Information Security Centre (ICS)
Defence & Security Cluster, Council of Scientific and Industrial Research (CSIR)
Call it Industry 4.0, digitalisation or digital transformation – the concept behind these words has been and still is on everybody’s lips. Frequently, however, it gives rise to the question how to actually tackle the challenge of digitalising an established plant, namely a brownfield plant. This is where first steps can help experience digitalisation and create more efficient procedures.

If pumps are involved, naturally, the next questions are: How can pumps be made fit for the future? How can procedures surrounding pump maintenance and service be improved using digitalisation? How can pumps become smart? Is there an option of making a concrete start without major expenses?

KSB, the Frankenthal-based pump and valve manufacturer, has a solution that has been on the market since September 2018.

The monitoring solution, called KSB Guard, enables the transfer of existing pumps to the digital world, even during operation. The device comprises a sensor unit with a temperature and a vibration sensor. The vibration sensor has an accuracy of 1 kHz and measures in all three axes. The sensor unit is fastened to the pump (KSB or any other make) using industrial adhesive. This type of fastening is generally suitable for all dry-installed pumps and can be fitted during pump operation as well.

The second hardware component is a transmission and battery unit which is connected to the sensor unit with a cable and supplies the sensors with power. This does away with the need to lay an additional power cable supplying the sensors at the pump. The batteries have a life span of up to five years depending on your choice of signal transmission and are easy to replace.

Using a wireless connection, the data recorded are sent to a gateway, which is the third hardware component. The gateway can be used for up to 20 sensor units. Fitted with a SIM card it provides the required connection to the mobile phone network. This means the entire communication path has been defined and secured by KSB, minimising time and costs for installation and commissioning.

To access the available information about a pump, the pump only needs to be assigned in the KSB Guard app or web portal. Name plate data of pump and motor need to be entered in this process. If it is a KSB pump and its serial number is entered, the data will be called up from KSB databases and entered automatically in all other cases, entering the data takes no longer than a few minutes and is as easy as filling in an entry screen in an online shop. No further parameterisation is required. The complete installation and commissioning process is so efficient, it is a breeze to make existing pumps in a plant smart and, with that, fit for the future.

After commissioning, a multitude of information will be accessible in the web portal or app. The app can be downloaded on the various Android and iOS app stores. For pumps made by KSB the serial number gives access, via app or web portal, to additional documents, such as the data sheet or a sectional drawing – so searching for pump information has become a thing of the past. Quickly and easily maintaining and calling up a history file for the pump is also an option. Any maintenance and repair work can be recorded with a few clicks and will then be visible to all those operating from the back offices at SupremeServ. This enables service representatives to contact and advise you of further action if required.

Particularly valuable are the status data of the installed pump sets. They are not restricted to the current temperature and mean vibration velocity values but also show trends. Since measurements are conducted once an hour (or, optionally, more frequently) data can be looked at over time, which enables any changes to the pump status to be identified.

Alarm and warning limit values have also been defined for this purpose. If the limit values are reached, an alarm or warning message is triggered. These messages can be received per e-mail or as a push message on a mobile phone or tablet – whichever is most convenient. The limit values can be individually adjusted for each pump using the app or web portal.

Apart from information on the temperature and mean vibration velocity, an operating hour counter, the load profile and the load status of the pump can be displayed. The speed can be derived from the measured vibrations. Initially, this indicates whether
the pump is running or in standstill. For pumps without variable speed drive systems the speed and an algorithm patented by KSB serve to further identify the load condition of the pump: overload, optimum, part load or extreme part load. So KSB Guard also helps uncover energy saving potentials and optimise plants accordingly.

KSB Guard’s main benefit is certainly that of monitoring the temperature and vibrations and the associated warning and alarm messages, which help identify a change in pump status at an early stage. This allows an early response before any failures or major damage occur at the pump.

The early-warning system has been tried and tested in many applications. For instance, imminent clogging of a large, dry-installed waste water pump was detected in time. As the pumping station in question transports raw waste water, clogging is common. In the past, this had led to numerous failures and cost-intensive repairs. What made it harder was that the pumping station is in a remote location and is not supervised continuously. KSB Guard proved to be an ideal solution, fitting the pumping station with a monitoring system in a simple and cost-effective way.

In this particular case, KSB Guard detected that the mean vibration velocity was rising continuously. Based on this knowledge, service personnel was sent to the pumping station to remedy the cause of the high vibrations and prevent clogging. Without KSB Guard a failure and the corresponding damage at the pump would have most likely been the outcome.

Another example is that of a tubular casing pump that had been in operation for many years without any maintenance since the plain bearings were lubricated for life. However, after a very long period of use, more than 40 years in this case, these mechanical components, too are affected by wear. To ensure continued maximum operating reliability, KSB Guard was once again the first choice as it allowed for the pump to be simply and quickly fitted with a monitoring system. Like in the previous case, the vibration values measured increased over time. It was then discovered that the pump could no longer be rotated by hand. As a consequence, the pump was dismantled to prevent a failure incurring very costly repairs or even the need to purchase new equipment.

With KSB Guard every pump is quickly and easily integrated in the Industrial Internet of Things and an existing pumping station can be given a new level of transparency without any risks.

For more information, please contact KSB Pumps Supremeserv
www.ksb.com/ksb-za
SOUTH AFRICA
BOTSWANA
NAMIBIA
ZIMBABWE
MOZAMBIQUE
ZAMBIAB
ANGOLA
ECONOMIC DEVELOPMENT:
ENERGY SUPPLY IS THE SINGLE BIGGEST RISK
The economic outlook for South Africa has become even gloomier with real growth of well below 1% expected for 2019 and 2020. Relevant institutions are likely to lower their estimates and forecasts for 2019 and 2020 significantly.

Mismanagement of state-owned enterprises has increased costs for enterprises and also burdens the public purse. In 2020, the biggest macroeconomic risk is the state-owned electricity utility, Eskom, in debt to the tune of 31.5 billion US Dollars and rife with technical problems far more serious than what was reported six months ago.

President Cyril Ramaphosa is considered a reformer and there has been progress in strengthening state institutions and – at administrative levels – fighting corruption. The systematic looting of the country under former President Jacob Zuma is being reviewed with the aim of initiating criminal prosecutions at a later date.

But the corruption of recent years is also taking its financial toll. There are uncertainties as to whether the Ramaphosa government will be able to control the high running costs and the debt of the state economic sector and implement reforms of the state-owned enterprises that have been initiated. Resistance within the ruling ANC party and its political allies is slowing down the reform course. Without clear signals, investor confidence is waning.

At the beginning of November 2019, the rating agency Moody’s set the outlook for creditworthiness to negative. In the downgrade considered possible at the end of March 2020, the last of the three largest rating agencies would give South Africa a ‘junk status’. This would not only increase the cost of government bonds, but also weaken the South African Rand.

INVESTMENT:
DECLINES IN STATE-OWNED ENTERPRISES
After gross fixed capital formation in 2018 fell by 1.4% at constant prices, weak development is expected to continue in 2019 and 2020. Declining investments by government and public state companies will determine the development. Private investment is mainly driven by projects in the wind energy and data processing and storage sectors. Further cuts in the key interest rate, which are intended to boost investment, are not ruled out for 2020.

It is not only Eskom that is in financial difficulty, but also Transnet (rail freight, ports), Prasa (rail passenger transport) and South African Airways (SAA) which, to avert bankruptcy, is selling more than half of its Airbus A340 fleet. Prospects of the state-owned defence company, Denel, have improved.

CONSUMPTION: WEAK GROWTH
Economists project that economic growth in 2020 will be lower than population growth, for the sixth consecutive year. In 2018, private consumption growth was 1.8% after adjustment for inflation, which is higher than the population growth rate (1.5%). In the first three quarters of 2019, however, growth compared with the same period of the previous year was 1.2%. A similar rate is expected in 2020.

Unemployment, which rose to 29.1% in the third quarter of 2019, is hampering the development of consumption. In the same period of the previous year it was 27.1%. According to government agencies, it will take an annual growth rate of 4% to bring down the unemployment rate. A devaluation of the Rand – for instance in the course of a downgrade of South Africa – is considered the greatest risk for the development of consumption. Tax increases or rising electricity costs for 2020 cannot be ruled out.
**KEY ECONOMIC DATA**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018</th>
<th>2019 estimate</th>
<th>Comparative Data Germany 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (nominal billions of US Dollars)</td>
<td>368.2</td>
<td>362.1</td>
<td>3,846.6</td>
</tr>
<tr>
<td>GDP per capita (US$)</td>
<td>13,664</td>
<td>13,893</td>
<td>46,286</td>
</tr>
<tr>
<td>Population (millions)</td>
<td>57.8</td>
<td>58.6</td>
<td>831</td>
</tr>
<tr>
<td>Exchange rate (1 US$ = ZAR)</td>
<td></td>
<td>15.8</td>
<td>16.7</td>
</tr>
</tbody>
</table>

Sources: EIU, International Monetary Fund (IMF), Federal Statistical Office

**SWOT ANALYSIS**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government addresses the privatisation of state functions (State Capture)</td>
<td>Inefficient and overstaffed administration and state-owned enterprises</td>
</tr>
<tr>
<td>Diversified, partly state-of-the-art industry</td>
<td>Great social inequality</td>
</tr>
<tr>
<td>Raw materials (coal, gold, platinum, diamonds and rare earths)</td>
<td>High crime with consequential costs for the economy</td>
</tr>
<tr>
<td>Relatively good infrastructure (roads, ports, rail transport)</td>
<td>Serious deficits in school and vocational training</td>
</tr>
</tbody>
</table>

**FOREIGN TRADE (BILLION US$; CHANGE IN%)**

<table>
<thead>
<tr>
<th>2019 1)</th>
<th>2020 2)</th>
<th>2021 2)</th>
<th>Changes 2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports (fob)</td>
<td>999</td>
<td>1028</td>
<td>1073</td>
</tr>
<tr>
<td>Exports (fob)</td>
<td>1016</td>
<td>1051</td>
<td>1094</td>
</tr>
<tr>
<td>Trade balance</td>
<td>17</td>
<td>2.3</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Economist Intelligence Unit as of December 2019: 1) Estimate; 2) Prognosis

**SELECTED MAJOR PROJECTS**

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Investment (Rand)</th>
<th>Project Status</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRASA rail passenger transport</td>
<td>12.7 billion</td>
<td>Completion by 2030</td>
<td>First part of the contract for rail fleet went to Alstom; renewal of rail fleet with the construction of US$ 74 million manufacturing facility (Gibela factory in Ekurhulei); construction and renewal of railway lines and signalling systems; <a href="http://www.prssa.com">www.prssa.com</a></td>
</tr>
<tr>
<td>Transnet railways and ports</td>
<td>16 billion</td>
<td>Realisation phase</td>
<td>Construction or expansion of ports and railway lines, rail fleet; <a href="http://www.transnet.net">www.transnet.net</a></td>
</tr>
<tr>
<td>Sanral</td>
<td>2.7 billion</td>
<td>Completion 2023</td>
<td>Extension and rehabilitation of the national road network. Future repair and upgrades to the N2 (2,269 km), N3 (579 km) motorways. (1.8 billion US$)</td>
</tr>
<tr>
<td>Musina-Makhado Special Development Zone (SDZ) – Limpopo province</td>
<td>210 billion</td>
<td>Under construction</td>
<td>On completion: 4,600 MW coal-fired power plant and a metal composite for the production of stainless steel, ferrochrome and silicon-manganese</td>
</tr>
<tr>
<td>Swazilink Railway</td>
<td>1.4 billion</td>
<td>Feasibility planning</td>
<td>Construction of a rail link from the Mpumalanga province to the ports in Richards Bay and Maputo via Swaziland</td>
</tr>
<tr>
<td>Liquefied Natural Gas Independent Power Producer (IPP) Programme</td>
<td>3.5 billion</td>
<td>Start of the tender process is still uncertain</td>
<td>Call for tenders of IPP gas-fired power plants for a total of 3,000 MW. <a href="http://www.gasing.ipp-gas.co.za">www.gasing.ipp-gas.co.za</a></td>
</tr>
<tr>
<td>De Bron Merriespruit Project</td>
<td>2.4 billion</td>
<td>Feasibility study</td>
<td>Gold mine: 500 to 1200 m; <a href="http://www.sibanyestillwater.com">www.sibanyestillwater.com</a></td>
</tr>
<tr>
<td>Lesotho Highlands Water Project</td>
<td>17 billion</td>
<td>Planning, Completion 2024</td>
<td>Phase 2, construction of a new dam</td>
</tr>
<tr>
<td>Cato Ridge Logistics Hub</td>
<td>1.3 billion</td>
<td>Design phase</td>
<td>Logistics hub about 50 km from the port of Durban, for container handling</td>
</tr>
<tr>
<td>BP Oil SAPREF Refinery Upgrade</td>
<td>1 billion</td>
<td>Investment announced</td>
<td>As part of an investment programme for the next 10 years, BP Southern Africa plans to upgrade the Sapref refinery (capacity 180,000 barrels per day) <a href="http://www.sapref.com">www.sapref.com</a></td>
</tr>
<tr>
<td>Umkhomazi Water Project</td>
<td>0.35 billion</td>
<td>Feasibility study</td>
<td>Drinking water for Durban and Pietermaritzburg. Construction of dams, water transfers and treatment plants. Development by Department for Water and Sanitation (part of the Ministry of Housing, Water and Wastewater) and Umgceni Water (state water utility).</td>
</tr>
</tbody>
</table>

Sources: gtai research, press reports
FOREIGN TRADE: WEAK RAND SUPPORTS EXPORTS OF INDUSTRIAL PRODUCTS
South African exports are expected to grow by around 3.5% in 2020. Imports will grow more slowly at just under 3%. Due to the weaker Rand, good export figures are expected to continue in 2019, especially for industrial products (motor vehicles and parts), following high increases. Coal, precious metals and other ores dominate South African exports (2018: 59.4% of total exports). Here a moderate increase in export growth is to be expected.

In 2018, German exports will have fallen by 7% to 8.85 billion Euros compared to the previous year. With an increase of around 2.6%, a recovery is on the cards for 2019. In 2020, exports will average around 1.5%
Over two thirds of German sub-Saharan exports go to South Africa. Due to increased South African exports to Germany (mainly automotive parts), the total trade volume from 2015 to 2018 grew by an annual average of 5.3% to 16.9 billion Euros.

SECTOR SURVEY
As coronavirus infections increase sharply in the southern winter, economic stability is not expected before October 2020. In 2020, GDP is expected to grow by well over 7%. Economic recovery will be tentative in the coming years. Tourism, the construction industry, manufacturing and mining are particularly affected by the pandemic; its impact on utilities, trade and transport is less pronounced, while agriculture, the energy and health sectors and government services should tend to be spared.

MECHANICAL ENGINEERING: POTENTIAL HAMPERED BY RECESSION
The mechanical engineering sector is focused on construction and mining machinery and also manufactures pumps and valves, agricultural machinery and food processing and packaging machinery.

With the weakness of the Rand, the mechanical engineering industry is gaining price competitiveness at home and abroad, which it could use for further development. However, the depth of the current recession, which is affecting practically all sectors will initially far outweigh the benefits of currency depreciation.

In view of falling productivity and many industrial accidents, the need for Industry 4.0 in mining is great. South African mechanical engineering companies can benefit from this together with German suppliers.

HEALTHCARE: CONTAINING THE PANDEMIC TAKES PRIORITY
The health sector is relatively well placed to cope with the Covid-19 pandemic, but needs to increase capacity. The number of infected people is rising rapidly. In hospitals, however, there is only a slow expansion of treatment options for Covid-19 patients. It remains to be seen whether this will accelerate until the expected peak in September. BMW and Nissan are building a field hospital and Volkswagen has opened a temporary clinic. The public healthcare system is increasing its bed capacity for coronavirus patients. Companies have specialised in the production of fans, masks, and disinfectants, etc. The production of ventilators is planned. South Africa wants to play a more important role as a pharmaceutical location in the future.

CHEMICAL INDUSTRY: COMPANION SECTOR TO MINING
The industry has grown alongside the mining sector for which it produces important consumables. The petrochemical industry is largely coal-based. The crisis in the mining industry limits the demand for explosives and process chemicals. The construction sector is also practically non-existent as a buyer of chemical products. Good automobile export figures had led to a growing demand for plastic parts and coatings. This market has collapsed as a result of the corona crisis. With the increased requirements, the sale of plastics for hygiene protection is growing. Because of the critically evaluated environmental balance, the chemical company Sasol intends to switch increasingly to natural gas. Investments in oil refineries are pending. It remains to be seen when these will be implemented.

STEEL INDUSTRY: PLAGUED BY UNFAVOURABLE CONDITIONS
South Africa has a wealth of metal ores and a long tradition of metal processing. Unfavourable conditions and cheap steel imports have been plaguing the industry for years. The difficult times continue. Demand from the important customer industries of mining, construction and automotive engineering will decline sharply in 2020. It remains to be seen whether the Corona crisis will be used to reverse the process of deindustrialisation that has been going on for decades. The planned increase in domestic value added in automotive engineering from 39 to 60% by 2035 would give the sector a considerable boost.
ENVIRONMENTAL TECHNOLOGY: A DIVERSE MARKET
High deficits in municipal supply as well as necessary modernisation measures in industry and mining create a diverse market for environmental technologies.

The water sector has been grossly neglected. Investments of the equivalent of around 7.6 billion Euros are required. Due to tight budgets, expenditure will be lower, especially since funds have been channelled into the provisional water supply during the lockdown. Nevertheless, extensive tenders are expected, especially for maintenance. The Umkhomazi Water Project will invest around 280 million Euros in the water supply of the cities of Durban and Pietermaritzburg. The considerable air pollution caused by old Coal-fired power stations and chemical plants are an urgent problem.

AGRICULTURE: GROWTH FORECAST IN SPITE OF CORONAVIRUS
As an essential sector, agriculture has been largely spared the lockdown and is experiencing strong growth.

The 2019/20 summer season has brought record harvests of cereals, fruit and edible oil commodities and has mitigated severe income losses during a long period of drought in previous years. The agricultural sector is expected to grow by 6%. Nevertheless, imports of agricultural machinery and fertilisers will only increase moderately. Here, financing problems and, above all, a weak Rand are slowing down. The debate about the expropriation of land without compensation continues to cause uncertainty. With a share of 20%, Germany is the most important supplier country for tractors, ahead of the US. In terms of other agricultural equipment, Germany is behind the US.

FOOD INDUSTRY: COVID-19 BREEDS UNCERTAINTY
Germany is the most important supplier of machines for food processing, ahead of Italy and China. After high growth rates in 2019, German exports are likely to decline significantly.

Although the food industry was largely spared from the affects of the lockdown, the coronavirus pandemic is causing uncertainty. The highly developed sector is dependent on a functioning supply of packaging, additives and spare parts. Furthermore, the outbreak of Covid-19 in individual factories cannot be ruled out. Last but not least, the middle class, in particular, has to accept heavy losses in purchasing power. This leads to a significant drop in demand for more sophisticated products and in the catering trade.

ENERGY INDUSTRY: EXPANSION OF RENEWABLE ENERGIES
The government’s energy plan provides for new nominal capacities of 29,500 megawatts by 2030. Most of this will be wind and solar energy.

The power outages at the end of 2019 and the overindebtedness of the state-owned electricity supplier Eskom put the expansion of renewable energies (RE) on the political agenda. There is to be a tender round for independent power producers of 1,800 megawatts for large-scale renewable energy plants. However, the South African government is holding back with a timetable. Bureaucratic hurdles and often a lack of grid feed-in slow down the expansion of small-scale private RE plants. There are uncertainties as to whether the power supply will remain stable when consumption starts to rise again. The expansion of nuclear power is under discussion.

CONSTRUCTION INDUSTRY: BANKRUPTCIES AND BRAIN DRAIN
The construction industry has not recovered from the downturn that followed the 2010 World Cup. The once-proud industry is threatened by bankruptcies and brain drain. Even before the pandemic, the construction sector was in crisis. After lockdown restrictions were relaxed in mid-June 2020, the sector resumed, with the exception of residential construction. The South African government has promised to launch planned infrastructure and energy projects and wants to attract private investors for these projects. After a double-digit decline this year, the sector is expected to recover moderately in 2021. Tight state coffers and a slump in demand, especially in private housing construction, could cause a slide back into the negative in 2022.
Luanda (gtai) – The oil sector dominates the Angolan economy; while conditions for development of other economic sectors are good their potential has been exploited very little to date.

**ECONOMIC PROSPECTS**

Angola was hit hard by Covid-19, despite early measures to curb its spread. However, the collapse in 2020 of the price of oil, Angola’s most important source of revenue, is a greater cause for alarm. Oil has shrunk to about half of its original volume, with prices of 30 to 35 US Dollars per barrel and a decrease in output is intensifying the impact.

Angola’s GDP declined by 0.9% in 2019, according to the national statistics institute, INE. The IMF and EIU expect greater declines of 1.5 and 2.2% respectively. Forecasts for 2020 see values between -1.4% (IMF) and -4.1% (EIU).

Angola is in the midst of a restructuring and reform process, which includes fighting corruption, consolidating public finances, the sale of state-owned companies, and diversification of the economy. The current oil revenue crisis shows how important it is to reduce unilateral dependence on oil but government has little leeway to absorb financial measures such as reducing subsidies or new taxes.

According to IMF estimates, Angola’s public debt will rise to around 132% of GDP in 2020, after almost 110% in 2019 and 124% in 2021 with increasing inability to pay, even with a slight stabilisation of revenue. Much is dependent on the price of oil and the willingness of major creditors like China to reschedule debts.

**INVESTMENT: HOPE FOR THE PRIVATE SECTOR**

Most investment in Angola is in the oil sector. The decline in output from older repositories has prompted government to grant new licenses to begin exploration and development of additional oil fields. In the context of low global market prices, however, costs of offshore production are too high and oil companies are likely to reduce their investments and return only when the oil price increases.

The considerable shortfall in income means the public sector is more dependent on the private sector. Participation models such as BOT (Build-Operate-Transfer) are conceivable for port modernisation, according to World Bank analyses. Government hopes to generate additional income from the privatisation of 195 state-owned companies by 2022. Sales are slow because several of them are not profitable.

**CONSUMPTION: HIGH INFLATION INFLUENCES PURCHASING POWER**

The drop in value of the Angolan Kwanza and supply bottlenecks due to the pandemic have made imports more expensive. Inflation could reach 20 to 25% in 2020. Higher prices for imported goods and loss of income due to increased unemployment have caused buying power to decrease. Angola is dependent on imports, not only for capital goods but also for many consumer goods, including food. Due to the external oil price shock, private consumption will largely fail as an internal stabiliser.

Consumption figures are also affected by additional taxes, such as value-added tax introduced in October 2019 and a reduction in subsidies – reforms suggested by the IMF. Local production of food and consumer goods is more urgent than ever – both for the labour market and income opportunities, and to feed the population.

**FOREIGN TRADE: BALANCE REMAINS POSITIVE**

Crude oil makes up about 90% of Angola’s exports. The halving of the oil price in the first half of 2020 will have a devastating effect on the external trade balance, which will remain positive due to considerable surpluses in recent years. Other important export goods are natural gas and diamonds. Machines and electrical appliances with a share of 19.8% were at the top of imports in 2019, followed by foodstuffs (18.5%) and fuels (13.7%).

China replaced Portugal as Angola’s most important supplier country in 2018. Portugal fell to third place behind France in 2019 followed by Belgium and South Korea. Germany ranks 19th with US$ 149 million, among the countries of origin of Angolan imports. Just over two-thirds of Angola’s oil exports go to China, by far the largest destination for Angolan exports. Far behind are India, Portugal and Spain.

**SECTOR SURVEY**

The oil industry accounts for about a third of Angola’s gross domestic product (GDP). Other sectors have been neglected for years. The moment to change course seems to have arrived. Although the road to success seems rocky and many conditions have yet to be created – from infrastructure to efficient administrative institutions – the first steps have been taken.

**CONSTRUCTION: LESS MONEY FOR PUBLIC PROJECTS**

With limited scope for public investment due to lower oil revenues and a high debt burden analysts had revised growth prospects lower in the sector before the pandemic. The situation has now worsened although existing and financed projects are likely to continue. Public-private partnerships are becoming more important in this climate. The building materials group, Sika, has announced that it intends to expand its cement and concrete production in Angola.
Area 1,246,700 km²
Population 31.8 million (2019)
Population growth 3.3% (2018)
Official language Portuguese
Capital Luanda
GDP growth -2.1% (2018)
President João Lourenço
Ease of doing business 177/190 (2019)
Currency Angolan Kwanza
Sources: World Bank, World Fact Book

SWOT ANALYSIS

Strengths
- Urgently needed reforms being implemented
- Successes in the fight against corruption
- Strong foreign trade position
- Continuous expansion of infrastructure
- Climate good for agriculture

Weaknesses
- Strong dependence on the oil sector
- Corruption and inefficient justice and administration
- High public debt
- Large spatial disparities
- Dependence on food imports

Opportunities
- Investments in untapped mineral deposits
- Agricultural potential
- Reduced corruption improves business climate
- Tourism as an additional source of income
- Development of manufacturing industries

Threats
- Low global oil and gas prices
- Falling oil production
- Low private investment
- Failure of reform policy
- Social conflict

KEY ECONOMIC DATA

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018 1)</th>
<th>2019 2)</th>
<th>Comparative Data Germany 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (nominal, billion US$)</td>
<td>103.8</td>
<td>80.2</td>
<td>3,846.6</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>3,432</td>
<td>2,521</td>
<td>46,286</td>
</tr>
<tr>
<td>Population (million)</td>
<td>30.8</td>
<td>31.8</td>
<td>83.1</td>
</tr>
<tr>
<td>Exchange rate (annual average, 1 Euro = ...)</td>
<td>303,343</td>
<td>419,071</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Banco Nacional de Angola; World Bank

FOREIGN TRADE (US$ MILLIONS)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>Difference 2019/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports</td>
<td>15,798</td>
<td>14,127</td>
<td>-10,6</td>
</tr>
<tr>
<td>Exports</td>
<td>40,758</td>
<td>34,726</td>
<td>-14,8</td>
</tr>
<tr>
<td>Trade balance</td>
<td>24,960</td>
<td>20,599</td>
<td></td>
</tr>
</tbody>
</table>

Source: EIU

SELECTED MAJOR PROJECTS

<table>
<thead>
<tr>
<th>Project name</th>
<th>Amount (million US$)</th>
<th>Project status</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caleque pumped storage power plant</td>
<td>130</td>
<td>Implementation</td>
<td>Moto-Engil (Portugal)</td>
</tr>
<tr>
<td>Construction of a motorway network of 8,000 km</td>
<td>8,000</td>
<td>Proposal</td>
<td>Beta Tek (Turkey) has proposed government planning for a Build Operate Transfer (BOT) model</td>
</tr>
<tr>
<td>Luaxe Diamond Mine</td>
<td>300</td>
<td>Planning</td>
<td>Sociedade Mineira de Catoca, with share-holding from Alrosa (Russia) and LLI (China)</td>
</tr>
<tr>
<td>Cátata Phosphate Mine, Cabinda</td>
<td>n/a</td>
<td>Feasibility Study</td>
<td>Minbos Resources (Australia)</td>
</tr>
<tr>
<td>Lucunga Phosphate Mine, Zaire</td>
<td>n/a</td>
<td>Planning</td>
<td>Cimenfort Industrial (Angola)</td>
</tr>
<tr>
<td>Tchitengo Diamond Concession, Lunda Norte/Lunda Sul</td>
<td>150 - 200</td>
<td>Planning</td>
<td>Consortium of B&amp;A (Brazil, United Kingdom) and Somipa (Angola)</td>
</tr>
<tr>
<td>Camafuca Diamond Concession, Lunda Norte</td>
<td>150 - 200</td>
<td>Planning</td>
<td></td>
</tr>
<tr>
<td>Longojo Rare Earth Project</td>
<td>n/a</td>
<td>Planning</td>
<td>Persiana Rare Earths (Australia)</td>
</tr>
<tr>
<td>Soyo Refinery, Zaire</td>
<td>n/a</td>
<td>Award</td>
<td>Capacity 100,000 bpd; awarding of contract delayed by Covid crisis</td>
</tr>
<tr>
<td>Uralchem / Opai fertilizer factory</td>
<td>1,200 - 1,300</td>
<td>MoU</td>
<td>Uralchem, production of ammonia and urea from natural gas</td>
</tr>
</tbody>
</table>

Sources: gtai research, press reports
MINING: REORGANISATION TO OPEN UP ADDITIONAL SOURCES OF REVENUE
Angola seeks to reduce its dependence on oil by extracting alternative raw minerals focussing on diamonds and phosphates, for which new concessions were awarded in May 2020. Other exploration projects include cobalt, copper, nickel, lithium and iron ore. Pensana Rare Earths is receiving special attention for its rare earth prospecting. The management of mining activities will be regulated at the National Agency for Mineral Resources in future, similar to the regulation in the oil sector.

CHEMICAL: POTENTIAL IN RAW MATERIALS
Angola imports most of its fuel, as the country’s refining capacity only meets about 20% of its needs. Additional refineries have been on the agenda for a while. A new plant is currently under construction in Soyo with a capacity of 100,000 barrels per day. Further refineries are planned in Cabinda and Lobito and production in Luanda is to be quadrupled. Extraction of phosphorus deposits will be planned in Cabinda and Lobito and production in Luanda is to be quadrupled. Extraction of phosphorus deposits will create the basis for local fertiliser production in future. The Russian company Uralchem plans to produce ammonia and urea from natural gas in Angola from 2023.

ENERGY: MORE HYDROPOWER AND SOLAR
In 2018, only 34% of Angola’s population and only about 10% in rural areas had access to the electricity grid. On the agenda is the expansion of generation capacity, especially hydropower plants supplemented by solar energy, transmission lines and an improvement in local distribution. The largest single project is the German-funded Caculo Cabaca dam, with mechanical systems and turbines supplied by Voith. Construction work on the binational Baynes hydroelectric power station on the border with Namibia, and with an installed capacity of 600 megawatts, is to begin in 2021.

HEALTH CARE: PANDEMIC HIGHLIGHTS LACK OF TREATMENT OPTIONS
Angola reacted promptly to limit the spread of Covid-19, which was urgent since facilities would not have been able to cope with a sudden influx of patients. The government is pushing ahead with hospital projects in various parts of the country, which include clinics in the metros and in the suburbs of Viana and Cacuaco in the capital Luanda, where two hospitals with 300 beds each, are being built. A new hospital with 200 beds is being built in Ndalatando (Cuanza Norte). The World Bank pledged US$ 110 million for the Angolan health sector in autumn of 2019.

ICT: FOURTH PROVIDER STIMULATES THE TELECOMMUNICATIONS MARKET
With the award of a fourth telecommunication services licence in Angola to Lebanese company Africell, competition in the comparatively underdeveloped market could increase. By 2019, only about 12% of the country was connected to mobile phone infrastructure, and coverage of mobile contracts was less than 50% of the population. Tapping into this growth potential will take substantial investment. Up to now, three companies have shared the market: Unitel (market share around 80%), Movicel (about 20%) and the state-owned Angola Telecom with a marginal share.

AGRICULTURE, FORESTRY, FISHERIES: TOWARDS SELF-SUFFICIENCY
In 2019, to reduce dependence on food imports the government published a list of 54 products to be procured locally, as a priority (PRODES). Delivery difficulties in the wake of the Covid-19 crisis have underlined the need for this. Small farmers produce about 90% of agricultural products – mainly for subsistence. Key strategies include improving market access, for example, by setting up logistics centres such as those in the provinces of Malanje, Cuando Cubango, Mexico and Zaire. A pilot project will register agricultural land in the provinces of Huambo, Bié and Malanje to encourage investment.

FOOD INDUSTRY: A RETURN TO FORM
Before the civil war, Angola exported many agricultural products. To build on this, value chains and logistics must be established. Several parts of the country show approaches to this. Organisations, such as the Angolan Development Bank are involved in revival of the once thriving coffee industry, and a project in Cabinda province to boost cocoa production. The supply of fruit and vegetables is central to the production of goods such as fruit juices or canned goods, which is why companies partly organise their own cultivation and storage capacities.

OIL AND GAS:
PRICE DROP THWARTS MEDIUM-TERM STRATEGY
Oil production has slowed in recent years due to aging fields and poor maintenance. Institutional reorganisation and the creation of a National Oil, Gas and Biofuels Agency (ANPG), plus the first call for tenders for new oil fields since 2011 should trigger new investment. Despite the awarding of the first three contracts at the beginning of 2020, the fall in prices because of the Corona crisis is likely to extend the timetable because of high extraction costs of offshore oil. In April 2020, OPEC reduced Angola’s production rate by about a quarter, to 1.18 billion barrels per day.

AUTOMOTIVE SECTOR:
POTENTIAL FAR FROM EXHAUSTED
Sales of passenger cars and commercial vehicles in 2019 were almost 18% higher than in the previous year, with a total of 2,830, according to the international manufacturers’ association, OICA. However, these figures are only a tenth of the values from 2012 to 2014 when oil revenues were much higher. A healthy economy will increase market potential. Announcements by Toyota in the summer of 2019 and Volkswagen in February 2020 to build assembly plants in Angola, add to this possibility.
KASIGLAS® We protect the people who protect us

KASIGLAS® protective screens are riot-proof, resilient and abrasion resistant

As police officers you stick your neck out for all of us. We know how hard that can be, because we supply European police forces with anti-riot car glazing, helmet visors and more for over two decades. Made from almost indestructable plastic, hardened by special coating, developed for you. Always developed to the latest standard that is often defined by us. Globally. So that you are already protected on your way to a deployment. And even more important, so you arrive at home safe and well afterwards.
ECONOMIC PROSPECTS

Confirmation of the leadership of the Botswana Democratic Party (BDP) under President Mokgweetsi Masisi, in office since April 2018, is an opportunity to implement reform projects in the current legislative period without the influence of election campaigning. Diversification of the economy, which is highly dependent on diamond mining, is on the agenda.

The first round of gemstone sales in January 2020 marked a turning point in increasing demand, but declining buying interest combined with softer prices in 2019 underscored the market’s susceptibility to fluctuations. A slowdown in 2020 as a result of the coronavirus pandemic will affect the public budget, which will need alternative sources of income to avoid higher deficits.

A degree of uncertainty is reflected in the forecasts for economic growth in 2020. While the International Monetary Fund (IMF) expected a real increase in gross domestic product (GDP) of 4.2% in autumn 2019 according to its country analysis, the Economist Intelligence Unit (EIU) has lowered its forecast to just 2.5%. In general, the analysts of various institutions see Botswana’s growth potential in the next few years at between 3.5 and 4.5%.

The urgent problem is the unemployment rate of 20.7%. A comparatively high wage level with low productivity makes it difficult to create jobs, as does the dry climate and Botswana’s landlocked location. The country is therefore trying to focus on knowledge-based and intermediary areas, such as tourism and financial services or logistics for the region. A further goal is the expansion of local value creation.

INVESTMENTS:
SPECIAL ECONOMIC ZONES CREATE INCENTIVES

The largest volumes of investment in Botswana traditionally relate to the mining sector. The parastatal, Debswana, will invest more than 2 billion US Dollars in its diamond mines in the coming years. With the expansion of copper mining, the country is making greater use of another export-oriented resource. Of central importance, not only for the mining industry, is the energy supply. Botswana wants to reduce its dependence on South Africa as quickly as possible, especially in view of the current bottlenecks in electricity production in its southern neighbour.

Investments in electricity production and fuel production are therefore at the top of the list of major projects. Changes in legislation could lead to an increasing importance of private power plants and renewable energy sources. In order to improve the conditions for the settlement of industrial and service companies as part of its diversification strategy, Botswana is establishing a total of eight special economic zones.

CONSUMPTION: HIGH PER CAPITA INCOME

With a per capita income of more than 8,000 US Dollars, Botswana’s population is one of the wealthiest on the African continent. Due to the small population, however, the market volume for consumer goods remains limited. In addition, income inequality in Botswana is among the highest in the world, meaning that a considerable proportion of the population can only participate to a limited extent in consumer spending. The supermarkets in the cities are well stocked. However, most products are imported, mainly from South Africa.

With values between 3 and 4%, the inflation rate in the medium term will remain within the range of 3 to 6% set by the Botswana central bank. Wage increases for public employees before the elections have caused government consumption to grow more strongly in 2019. This effect will disappear again from 2020 onwards, so that private consumer spending will regain its role as a growth engine with an annual increase of around 4%.

FOREIGN TRADE: MINING DOMINATES EXPORTS

The global economy has a direct influence on Botswana’s foreign trade. Due to lower diamond prices and uncertain sales in the luxury segment, exports are likely to continue to decline in 2020, before the trend reverses in 2021, supported by the start of copper exports. By contrast, imports of capital goods and Botswana’s high dependency on consumer goods, primary products and energy should keep imports stable. Around two thirds of these come from South Africa, which is thus of central importance for Botswana’s supply. They are followed by Canada and Namibia, which mainly supply diamonds to Botswana for sorting and processing. The most important destination countries for Botswana’s exports are the diamond trading centres of Belgium, India, Israel and the United Arab Emirates. Industrial intermediate products can be sold in South Africa in particular. Germany mainly purchases beef from Botswana. However, the total import remains with about 3 million Euro just as limited as the Exports, which reached a value of approximately 66 million Euros in 2019.
Area 582,000 km²
Population 2.3 million (2019)
Population growth 2.2% annual change
Official languages English and Setswana
Capital Gaborone
GDP growth 3% (2019)
President Mokgweetsi Masisi
Ease of doing business 87/190 (2019)
Currency Pula

Sources: World Bank, World Fact Book

SWOT ANALYSIS

Strengths
- Politically stable
- Good infrastructure
- Low crime
- No ethnic tensions
- Low international debt

Weaknesses
- Unilateral dependence on raw material exports
- Small market with 2.3 million inhabitants
- Inland situation results in high transport costs
- Exposure to high rate of HIV infection
- Low productivity

Opportunities
- Regional site for direct foreign investment
- Logistics hub for neighbouring countries
- Improvement of vocational training
- Increase in local value creation
- Energy exports to the region

Threats
- Falling prices or demand for diamonds
- Climate change causing increased drought
- Conflicts over income inequality
- Energy shortages caused by electricity crisis in South Africa
- Conflict in neighbouring countries

KEY ECONOMIC DATA

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2017</th>
<th>2018</th>
<th>Comparative Data Germany 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (nominal, billion US$)</td>
<td>17.5</td>
<td>18.7</td>
<td>3,846.6</td>
</tr>
<tr>
<td>GDP per capita (US$)</td>
<td>7,767</td>
<td>8,168</td>
<td>46,286</td>
</tr>
<tr>
<td>Population (million)</td>
<td>2.27</td>
<td>2.30</td>
<td>83.1</td>
</tr>
<tr>
<td>Exchange rate (annual average 2018)</td>
<td>1 Euro = 12,0048 Botswana Pula</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Statistics Botswana; Federal Statistical Office; German Central Bank

FOREIGN TRADE (US$ MILLIONS)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>change 2019/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports</td>
<td>5,374.9</td>
<td>5,876.1</td>
<td>9.3</td>
</tr>
<tr>
<td>Exports</td>
<td>5,635.7</td>
<td>4,720.0</td>
<td>-16.2</td>
</tr>
<tr>
<td>Trade balance</td>
<td>220.5</td>
<td>1,198.4</td>
<td></td>
</tr>
</tbody>
</table>

Source: Statistics Botswana; calculations by Germany Trade & Invest

SELECTED MAJOR PROJECTS

<table>
<thead>
<tr>
<th>Project</th>
<th>Investment amount (million US$)*</th>
<th>Project Status</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Economic Zones (SEZ)</td>
<td>No information</td>
<td>Phased implementation</td>
<td>Development of eight industrial estates with infrastructure in different parts of the country as SEZ, start in Gaborone, opening October 2020, <a href="http://www.seza.co.bw">www.seza.co.bw</a></td>
</tr>
<tr>
<td>Four new clinics</td>
<td>No information</td>
<td>Planning phase</td>
<td>Always Open Clinic adds four new sites to the existing two in 2020, <a href="http://www.aoclinic.co.bw">www.aoclinic.co.bw</a></td>
</tr>
<tr>
<td>Lesedi Coal Bed Methane Project</td>
<td>28</td>
<td>Planning phase</td>
<td>Gas-to-power plant with 100 Megawatts developed by Tiou Energy (Australia), <a href="http://www.tiouenergy.com">www.tiouenergy.com</a></td>
</tr>
<tr>
<td>Lobatse Junction Mall</td>
<td>10</td>
<td>Planning phase</td>
<td>Shopping mall with 8,763 m² at bus station in Lobatse; Prime Time Holdings; <a href="http://www.primetime.co.bw">www.primetime.co.bw</a></td>
</tr>
<tr>
<td>Jwaneng Diamond Mine, Cut 9</td>
<td>2,000</td>
<td>Realisation phase</td>
<td>Extending the life of Botswana’s largest diamond mine until 2034, <a href="http://www.debswana.com">www.debswana.com</a></td>
</tr>
<tr>
<td>Khoemacau Copper Mine</td>
<td>No information</td>
<td>Realisation phase</td>
<td>Development of copper and silver mining, processing to concentrate, First export planned for second quarter 2021, <a href="http://www.khoemacau.com">www.khoemacau.com</a></td>
</tr>
</tbody>
</table>

* Due to high exchange rate fluctuations and unclear data, figures are estimates; Sources: Research by Germany Trade & Invest; press releases
SECTOR SURVEY

Botswana plans to reduce its unilateral dependence on diamond exports and can offer various niche markets where natural resources – mineral resources and agricultural products – are the basis for value creation. Its developed neighbour, South Africa, offers points of reference for supply industries. Its landlocked location in the centre of the region demands intermediary services such as logistics on the one hand, and low-transport-intensive sectors such as financial services, on the other.

CONSTRUCTION: INFRASTRUCTURE DENSIFICATION
The commitment to construction within three years of acquiring land has resulted in the commencement of construction of commercial buildings in the new administrative centre of the capital, Gaborone. Further stimulus will be come with the establishment of eight special economic zones. Population growth, increasing prosperity and greater economic integration with neighbouring countries is leading to a higher demand for water and energy supply, plus additional transport links, for example, with neighbouring Namibia.

MINING: DIAMONDS AND MORE
The development of new mining layers in the diamond mines of the companies, Debswana (Jwaneng) and Lucara (Karowe) will keep investments in the Botswana mining sector going for the next few years. To reduce dependence on a single market, the extraction of further resources is to be increased, for example, through copper mining at the Khoemacau mine. Botswana also has very large deposits of coal, which will in future, be used as an energy commodity for the further production of fuels and petrochemicals.

CHEMICAL SECTOR: FOUNDATION FOR COAL LIQUEFACTION
The ambitious plans for the liquefaction of the abundant coal, following the South African model, is still a dream of the future. In addition to the domestic production of fuels, this would lay the groundwork for a petrochemical industry, which could supply cheap energy. The first plant is scheduled to begin operation in 2025. The intention of the government is to establish local manufacture of medicines, for example, production of HIV medication which would benefit the Southern African Development Community (SADC).

ENERGY: REDUCING DEPENDENCE
With coal, the sun and according to recent studies, even wind, Botswana has more than enough energy resources, but so far has not utilised them. Coal generates more than 80% of electricity. The Morupule power plant with a capacity of 730 megawatts would be enough for the total demand, but due to technical problems, is not running at full power. Botswana then imports electricity from outage-plagued South Africa. The expansion of renewable energies, especially solar energy, is just starting, but can potentially take over a large extent of the supply.

HEALTH CARE: QUALITY IN SIGHT
Over the past 20 years, Botswana has successfully used income from diamond exports to invest in basic education and medical care. The next move will be to improve the quality of the offerings. Key factors will be to close the gaps in qualified staff and in clinic and hospital equipment. Private clinics complement the public system; however, the free-of-charge public system provides more than 90% of the facilities. Total health-care spending in 2019 was approximately US$ 11 billion.
ICT: IMPROVED SERVICES IN A MATURING MARKET
With around 3.4 million mobile phone contracts for 2.3 million inhabitants in 2019, Botswana had one of the highest rates of coverage on the African continent. A sharp quantitative increase is no longer to be expected. On the other hand, the extensive supply of 3G/4G networks is creating the framework for additional services. This is supported by the improved supply of broadband Internet. New offers will rejuvenate the competition between the three suppliers on the market. In this vein, Botswana has introduced number portability when switching providers in 2020.

AGRICULTURE, FORESTRY, FISHERIES:
PRIVATISATION OF MEAT SUPPLY
Agricultural production has suffered from a lack of rain over the past two years, as in much of southern Africa. There are signs of recovery in the near future and opportunities for modernisation on offer. The newly created National Research Institute, NARDI, is interested in partnerships and cooperations to increase productivity and introduce new crops. The exact procedure for privatising the meat export monopolist, state-owned Botswana Meat Commission, will be clear by the end of 2020.

FOOD MARKET:
RISING INCOMES DRIVE DEMAND
With a high per capita income for Africa and an above-average urban population of around 70%, Botswana offers good prospects for food sales, despite a small total population. Experts predict an annual increase of seven to eight% in the future. Supermarkets dominate the action in the cities, including the local chain Choppies, which is still active in Namibia, Zambia and Zimbabwe after withdrawing from several countries. Most of the food is imported, mainly from South Africa.

VEHICLE PRODUCTION:
OPPORTUNITIES AS A SUPPLIER
Botswana’s strategy to create industrial jobs relies, among other things, on the automotive supply industry. Potential customers are the South African-producing manufacturers BMW, Daimler, Ford, Isuzu, Nissan, Toyota and Volkswagen. The country achieved its first successes with the establishment of two plants for the production of cable harnesses. The industrial metropolitan area around Johannesburg is about 300 kilometres away from the capital, Gaborone, which is currently creating special economic zones that offer favourable conditions to specific export-oriented companies.

WAGNER SYSTEMS
Producers of Fine Mechanics Components & Assemblies

Wagner Systems, based in Cape Town, South Africa, service our customers in various industries worldwide. With South African rates favouring the international buyer, our production is done at attractive pricing not readily available in other parts of the world, yet at the world-class standards our customers have come to expect from us.

Distributors for Sphinx Tools, a Swiss-based manufacturer of precision tools for the machining industry.

Telephone: +27 21 715 8713   |   E-mail: wagner@wagnersystems.co.za
19 Estmil Road, Diep River 7800, Cape Town, South Africa

We do contract manufacturing of fine mechanics components and assemblies for a wide range of industries:
- Medical
- Aerospace
- Radio Astronomy
- General Industry

Our value-added services:
- Series and batch production
- Production of components for prototype development
- Guidance on component design for manufacturability
ECONOMIC PROSPECTS

A significant recovery in economic growth in Mozambique is expected in 2020 and 2021 with a further 8.1, and even 9.9%, growth forecast for 2022 and 2023. In the medium term, the economy could maintain its high real growth rates. Investment in the natural gas sector is creating initial dynamism, and in future, it will be the natural gas exports.

According to conservative estimates, Mozambique has the third-largest proven natural gas reserves on the African continent, after Nigeria and Algeria. The energy companies ExxonMobil, Total and Eni are investing in the development of the Rovuma natural gas field and in the construction of natural gas liquefaction plants.

Initial funding for the offshore Area 4 is expected from 2023, and large production volumes from 2025. So far, only a small amount of natural gas has been exported. Mozambique could become a major supplier of natural gas, following the expected implementation of the projects.

Mozambique’s credit record has suffered from Africa’s biggest credit scandal of 2016, but is improving, in anticipation of the high natural gas income. This has resulted in a moderate expansion of the government’s scope for funding. From 2021, this will become more important.

Beyond the natural gas sector, the economy is slowly recovering from Idai and Kenneth, the two severe hurricanes, which caused catastrophic consequences for the population when they struck in the spring of 2019.

Given Mozambique’s current low level of development, it is doubtful that the expected high growth in natural gas will automatically mobilise the general population economically. State institutions are likely to be subject to personal interests from politics and the military, and the high natural gas revenues are unlikely to be used for the necessary development of a more productive agriculture and a local commercial sector.

INVESTMENTS: HIGH GROWTH

Considerable investments in the natural gas sector are now considered secure and, as a result, total investment will increase by around 55% in 2020 and by around 45% in 2021.

Mozambique and neighbouring landlocked countries, Botswana and Zimbabwe, have large quantities of commercial-grade minerals, such as coal, iron ore and copper. Further development will require investment in the rail network and the construction of ports on the Mozambican coast. Hydropower, natural gas and coal are increasingly being used for domestic power generation.

Despite the positive outlook, however, there are risks for foreign direct investment. Islamist terrorist attacks are on the rise in the northern province of Cabo Delgado. It cannot be ruled out that the conflict between the state party Frelimo and the opposition Renamo could escalate into a partly armed conflict. The risks are currently considered to be under control.

CONSUMPTION: GROWTH NOT YET FELT BY THE POPULATION

In 2020 and 2021, consumption is expected to fall due to a decline in aid for the 2019 cyclones, slow agricultural recovery and the state’s ongoing austerity measures. Mozambique was officially declared insolvent in February 2017 because the country could not service a coupon payment for its only government bond. There are also government-guaranteed arrears and illegally agreed and embezzled commercial loans, amounting to 2 billion US Dollars.

Mozambique is among the countries with the highest poverty rate in the world. The wealthy consumer group is limited to well-paid expatriates and small Mozambican elite. At best, a slow recovery in agriculture, wage pressure and low consumer confidence will result in relatively low inflation of around 3.5% in 2020.

FOREIGN TRADE: GROWING DEMAND FOR CAPITAL GOODS

In 2018, Germany exported goods worth almost 105 million Euro to Mozambique. This compares with imports of 237 million Euro, mainly of coal (EUR 123 million) and aluminium (EUR 76 million). The most important import item from Germany are mining, construction and building materials machinery (EUR 30 million). Export growth of well over 10% is expected in 2020 and 2021. There are supply opportunities for German companies in large-scale projects in the fields of energy, mining and infrastructure.

Development of the Rovuma natural gas fields will ensure strong demand for capital goods, beyond 2024. Due to Mozambique’s increasingly high debt, much of the government revenue expected from natural gas exports will initially be spent on interest and debt repayments. Exports of coal, electricity and aluminium are expected to recover in 2020 and 2021, following the fallout from exports of coal, electricity and aluminium, due to the 2019 cyclones.
KEY ECONOMIC DATA

Indicator | 2018 | 2019 *) | Comparative Data Germany 2019
--- | --- | --- | ---
GDP (nominal, billion US$) | 14.5 | 15.2 | 384.6
GDP per capita (US$) | 1,325 | 1,328 | 46,286
Population (million) | 29.5 | 30.3 | 831
Exchange rate (annual average, 1 US$ = x MT) | 61.50 | 62.45 | 

*Estimate; Sources: EIU, Federal Statistical Office

FOREIGN TRADE (US$ MILLIONS)

| | 2018 | 2019* | Difference 2019/18 |
--- | --- | --- | ---
Imports (fob) | 6,169 | 6,028 | -2.3%
Exports (fob) | 5,196 | 4,668 | -10.2%
Trade balance | -973 | -1,360 | 

*Estimate Source: EIU

SELECTED MAJOR PROJECTS

| Project | Investment (million US$) | Project Status | Comment |
--- | --- | --- | ---
Rovuma Area 4 Gas Field / Rovuma LNG | 27 to 33 | Final investment decision expected in the 1st half of 2020. | ExxonMobil and Eni lead the way. Start of funding 2024/25. Two natural gas liquefaction plants on the Afungi Peninsula, with a capacity of 15 to 16 million tons per year. www.exxonmobil.co.mz; www.eni.com |
Trans-Zambezi Rail Project | 2.5 | Feasibility study | China Railways has proposed a line from the port of Nacala in Mozambique to Zambia, Malawi and Zimbabwe. |
Mphanda Nkuwa hydropower project | about 2.3 | Planning | Dam with hydroelectric power station (1500 megawatts, MW). Led by Instatec and Camargo Correa Brazil (40% each). Controversial because of potential social and ecological consequences. |
Ncondezi Coal Power Plant in Tete | 2.2 | Planning, Operation of first unit from 2023. | 1st unit 300 MW, five further units for a maximum of 1800 MW. Ncondezi has a development agreement with China Machinery Engineering Corporation and General Electric Switzerland. www.ncondezienergy.com |
Jangamo Mineral Sands Project | 1.0 | Mining license acquired | Savannah (www.savannahresources.com) and Rio Tinto (www.riotinto.com) partnership. Extraction of 600,000 tons of heavy metal sands annually in Inhambane Province. Expected start of production from 2020. |
Beluluane Industrial Park Power Plant | 0.7 | Planning | 2,000 MW gas power plant near Maputo. Client: Gigawatt, Aggreko, Livinango and Electricidade de Moçambique (EDM). www.beluluane.co.mz |
Temane 400 MW Power Project | 0.5 | Prequalification | Natural gas power plant fed by gas deposits in the province of Inhambane. |

SWOT ANALYSIS

Strengths | Weaknesses
--- | ---
Ample equipment with mineral raw materials | Low agricultural productivity by African standards
Mega-gas fields in the Rovuma Basin | Weak manufacturing infrastructure patchy and focused only on mineral exports
Good agricultural conditions | Great poverty, corruption
As a coastal country, it is conveniently located for commercial operations | 

Opportunities | Threats
--- | ---
Development of new gas fields ensures follow-up investments | Falling commodity prices
Rising demand for minerals | Stalling in the reconciliation process between the ruling party Frelimo and the opposition party Renamo
Implementation of power plant projects | Severe cyclones
Realisation of infrastructure projects | Terrorist attacks in the gas province of Cabo Delgado

Area: 801,590 km²
Population: 30.4 million (2019)
Population growth: 2.9% (2018)
Official language: Portuguese
Capital: Maputo
GDP growth: 3.4% (2018)
President: Filipe Nyusi
Currency: Metical (MT)

Sources: World Bank, World Fact Book

**SELECTED MAJOR PROJECTS**


- **Trans-Zambezi Rail Project**: Feasibility study. China Railways has proposed a line from the port of Nacala in Mozambique to Zambia, Malawi and Zimbabwe.

- **Mphanda Nkuwa hydropower project**: Planning. Dam with hydroelectric power station (1500 megawatts, MW). Led by Instatec and Camargo Correa Brazil (40% each). Controversial because of potential social and ecological consequences.

- **Ncondezi Coal Power Plant in Tete**: Planning, Operation of first unit from 2023. 1st unit 300 MW, five further units for a maximum of 1800 MW. Ncondezi has a development agreement with China Machinery Engineering Corporation and General Electric Switzerland. www.ncondezienergy.com

- **Jangamo Mineral Sands Project**: Mining license acquired. Savannah (www.savannahresources.com) and Rio Tinto (www.riotinto.com) partnership. Extraction of 600,000 tons of heavy metal sands annually in Inhambane Province. Expected start of production from 2020.


- **Temane 400 MW Power Project**: Prequalification. Natural gas power plant fed by gas deposits in the province of Inhambane.

The hope for high natural gas revenues has led to power plant projects and infrastructure projects in Mozambique. It remains to be seen to what extent this money win will boost the economy.

**CHEMICAL INDUSTRY:** FIRST PETROCHEMICALS

With the large-scale natural gas production starting in 2024, the conditions for petrochemicals are good. At least 25% of the produced gas will be used in the country. It is however, difficult to predict the extent to which these plans can be implemented. Royal Dutch Shell is currently planning a plant to convert natural gas into liquefied fuel. State-owned energy company Empresa Nacional de Hidrocarbonetos (ENH) is planning a feasibility study for a natural gas refinery. The fertiliser manufacturer Yara planned to use natural gas for a new plant, but has complained about the high gas prices and has halted the project for the time being.

**ENERGY INDUSTRY:** INCREASING CHANCE OF POWER PLANT CONSTRUCTION

The Temane Regional Electricity Project (TREP), which includes a 420-MW gas-fired power plant, an overhead power line and several substations is about to start and discussion of the 2,000-MW gas-fired power plant in Beluluane (Maputo) has advanced. New coal-fired power plants will be built in Ncondezi (300 MW), Benga (150 to 300 megawatts) and Nacala (200 MW) and there are new consultants for the 1,350-MW Maphana Nkuwa hydropower plant. The hydroelectric power plant in Cahora Bassa will be modernised by 2025. Photovoltaic plants (up to 50 MW) are being built in Mocube, Metoro and Lichinga.

**CONSTRUCTION:** GROWTH PROSPECTS

Favourable growth forecasts have given the heavily battered construction sector new impetus. It looks likely that individual projects for upscale office and housing segment needs and the construction of a public transport system for Maputo, will happen. The construction of the deep-sea ports of Techobanine and Marcuse with the associated east-west rail lines for coal mining remains to be seen. Infrastructure repair after the devastating cyclones in 2019 is slow, due to a lack of aid money. The Chinese group CITIC wants to implement projects in the construction sector across the country.

**HEALTH SECTOR:** RECONSTRUCTION AFTER HURRICANES SLOW

The health sector in Mozambique has suffered from tight coffers, political neglect and rampant corruption, for many years. The country is ranked last in the world health indicators. However, investment in hospital construction is expected to have a low-level increase. The construction of three new district hospitals began in mid-2019. Hurricanes Idai and Kenneth either severely damaged or destroyed around 30 clinics, in March and April 2019. Reconstruction is proceeding slowly.

**AGRICULTURE, FORESTRY, FISHERIES:** MAJOR PROJECTS HAVE FAILED

Productivity of the agricultural sector is low because of a lack of rural infrastructure and fertilisers, and droughts and cyclones. Large-scale agro-industrial projects with foreign capital have so far fallen far short of expectations, often at the expense of the small farmers; some have failed completely. President Filipe Nyusi has promised to develop agriculture for the benefit of Mozambican farmers. Chinese investors plan to grow beans and grain on 3,000 hectares on the Limpopo River.

**MINING:** LARGE COMMERCIAL RESERVES, BUT NO BOOM

Mozambique has a wide range of commercially degradable minerals, such as coal graphite, iron ore, titanium, copper and gold. The mining industry is broadly based and needs supplies on an ongoing basis. Due to the lack of infrastructure, the costs can be high. Commodity prices are also slowing down moderately. Savannah and Rio Tinto are working together to develop mineral sands. Vale is currently investing in the expansion of its coal mine. Expansion plans are in place for the mining of rubies. The Russian group Alrosa has expressed an interest in diamond mining.

**OIL AND GAS:** MOZAMBIQUE COULD BECOME FOURTH LARGEST NATURAL GAS EXPORTER

The development of natural gas deposits in the Rovuma Basin is fully underway. Total is in charge in License area 1. Saipem, McDermott, and Chiyoda will build a natural gas liquefaction plant there for US$ 20 billion. Production will start in 2024. License area 4 will be launched in 2022/23 with Coral, a smaller offshore gas liquefaction plant (US$ 8 billion). Realistically it is expected to start in 2025. ExxonMobil is in charge. Terrorist attacks in Cabo Delgado province have not yet impacted on the development. Further tenders for oil and gas exploration have been announced.
FOOD PROCESSING: INVESTMENT LOW FOR THE TIME BEING
A severe drought, the effects of the cyclones in March 2019 and the elections in October 2019 have caused a further slump in the underdeveloped food processing sector. The political situation remains uncertain, even after the elections. A stronger economic dynamic is expected outside the electricity and gas sectors, from around 2021 on. Investments in the milling and baking business and in the poultry and meat industry are possible. Following the commissioning of the Chemba factory in Sofala province in July 2019, Mozambique has been exporting organic sugar to Europe.

ENVIRONMENTAL TECHNOLOGY (WATER/WASTE/AIR): WATER SUPPLY URGENT
In Mozambique, only one in ten households has access to sanitation and one in three have access to safe drinking water. The water projects currently launched by international donors, amount to approximately US$ 320 million. An important focus is the supply of the Maputo area. The Infulene water treatment is being repaired and extended. The Greater Maputo Water Supply Expansion Project will, among other things, treat water from the Coruma Reservoir. Treatment plants are planned for Quelimane and Tete and there are water projects in Beira and Nampula.

ICT: MODERATE NETWORK EXPANSION
In the rankings for Internet access – network coverage, etc. – Mozambique ranks in the last tenth globally. Rural regions in particular are falling far behind. Mobile operators Vodacom Mozambique, Mcel (state) and Movitel (with Vietnamese participation) are currently investing in the 4G network expansion of the larger cities. Internet data package provider is TV Cabo. In April 2019, the Mozambican government announced an investment of US$ 130 million for the expansion of the fibre optic network. China’s Exim Bank will provide financing.

TEXTILE INDUSTRY: RECONSTRUCTION SOUGHT
The Mozambican government is planning to build two textile centres – one in the Soalpo free-trade area in Chimoio, which is yet to be created. The plan is to reactivate the Textafrica textile plant, which closed down about 25 years ago. Chimoio is located in the Beira Corridor, 95 km east of the border with Zimbabwe. The other would be to create a centre north of Maputo in Marracuene. A Portuguese-Mozambican consortium has already invested in the former Riopele textile factory based there. There are plans to expand production and grow cotton.
ECONOMIC PROSPECTS

Even though there have been very few Covid-19 infections reported for Namibia (200, as of July 2020), a temporary strict lockdown and high dependence on the world market will cause a drastic decline in real growth in 2020. The situation will only improve slightly in 2021. The only ray of hope is the heavy rainfall in 2019/20 after a prolonged drought. Investment in the mining and energy sectors could pick up slightly but there is uncertainty about the extent of the recovery and the V-shaped growth trend described recently in the press is unlikely.

All Namibia’s major sources of income are suffering. Worldwide demand for diamonds has dropped sharply and the increase in world market prices for uranium, expected at the end of 2019, has not materialised. In 2020 there will be few foreign tourists – an important source of foreign currency and employment and transfers from the Southern African Customs Union (SACU) will be low.

Capacity for a cushion against the pandemic or an economic stimulus package is hard to find in the national budget which was already strained before Covid-19 hit. In 2019, the government missed the chance to provide more planning security and better framework conditions for private investment.

INVESTMENT: LOW PROPENSITY TO INVEST

Investment is expected to decline in 2020, not only because of the economic downturn and tight state coffers but also because general conditions remain unclear. In the last draft law approved by the cabinet for the economic empowerment of those parts of the population discriminated against during apartheid (NEEEB), the assessment system for companies now stipulates that historically disadvantaged groups must have a 25% share in ownership. It is unclear whether the points system for companies envisaged by the law is limited to transactions with government agencies, as was initially envisaged. According to critics, implementation would deter domestic and foreign companies, and benefit only policymakers. Investment in diamond mining should pick up moderately in 2021.

CONSUMPTION: A MARKED DECLINE

With 2.5 million inhabitants and high rate of poverty, Namibia has only a small market for durable consumer goods. Decline in demand is expected to be even more pronounced than that of real macroeconomic growth. Consumption will recover only slowly from 2021 onwards. Above average rainfall in 2019–20 will benefit the poor rural population but the lockdown will affect the urban population and the middle class in particular. According to the 2020 UN report on the global food situation of 800,000 people in Namibia face a food shortage. For half of them, the food supply is acutely endangered. Despite the weak Namibia Dollar, inflation in 2021 will remain at around 3%, well below the inflation rate of 2019.

FOREIGN TRADE: SLOW RECOVERY

Major diamond exports will pick up slightly in 2021 as developed countries stabilise and will increase again in 2022 with another ocean-going diamond mining vessel. Uranium prices are expected to remain low. As a result, uranium mining is far from reaching its full capacity by 2022. The collapse in tourism in 2020 leaves a large deficit in the services balance. Uncertainties about the future development of long-distance tourism are high. Imports of capital and consumer goods will increase somewhat in 2021. Rising oil prices will put a greater burden on imports.

SECTOR SURVEY

The combination of Covid-19 and the global downturn has left deep scars. Bright spots include good rains, the launch of energy projects, and a recent rise in the uranium price. Since 2016, Namibia has been in recession or has experienced very low growth at best. The decline in GDP of more than 7% expected for 2020 can be attributed to falling world market prices for diamonds and a collapse in the key tourism sector, alongside the direct impact of Covid-19. 2021 will see the economy recovering by only 1 to 2%.

MINING

Mining accounts for around 13% of gross domestic product (GDP) and more than half of all foreign currency earnings. Lithium mining may continue to gain traction. Namibia’s main export, diamonds, will recover slowly following a collapse in global demand. From 2022, another special crawler ship will boost marine diamond mining; Namibia has the world’s fourth-largest diamond reserves. If uranium prices continue to rise, mothballed mines may be recommissioned. A pilot project looking at lithium extraction during zinc mining is ongoing, and there are plans to mine rare earths. Mining of Namibia’s rich but environmentally controversial undersea phosphate deposits is also under discussion.
### KEY ECONOMIC DATA

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2019</th>
<th>2020</th>
<th>Comparative Data Germany 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (nominal, billion US$)</td>
<td>12.4</td>
<td>10.5</td>
<td>3.846.6</td>
</tr>
<tr>
<td>GDP per capita (US$)</td>
<td>4,946</td>
<td>4,186</td>
<td>46,286</td>
</tr>
<tr>
<td>Population (million)</td>
<td>2.5</td>
<td>2.5</td>
<td>83.1</td>
</tr>
</tbody>
</table>

Exchange rate (annual average, 1 US$ = x N$) 14,465 -

1) estimate 2) prognosis

Sources: EIU, June 2020; Federal Statistical Office; Deutsche Bundesbank

### FOREIGN TRADE (US$ MILLIONS)

<table>
<thead>
<tr>
<th></th>
<th>2020 *)</th>
<th>2021 *)</th>
<th>Changes 2021/2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports</td>
<td>3,764</td>
<td>4,371</td>
<td>161</td>
</tr>
<tr>
<td>Exports</td>
<td>2,610</td>
<td>3,082</td>
<td>181</td>
</tr>
<tr>
<td>gross fixed capital formation</td>
<td>-1,154</td>
<td>-1,289</td>
<td></td>
</tr>
</tbody>
</table>

Source: EIU

### SWOT ANALYSIS

**Strengths**
- Resources available
- Well-developed institutions
- National and regional logistics networks interlinked
- Excellent prerequisite for renewable energies

**Weaknesses**
- Industrial base very small
- Dependence on raw material exports (diamonds and uranium)
- Extreme social inequality
- Over-the-top state sector

**Opportunities**
- Expansion into a regional transhipment point
- Need for investment in the energy sector
- Expansion of niche industries (e.g. natural cosmetics, game meat)

**Threats**
- Social unrest in the wake of the economic consequences of the Corona crisis
- Problematic economic situation with neighbours South Africa and Angola
- Rising level of debt

### SELECTED MAJOR PROJECTS

<table>
<thead>
<tr>
<th>Project</th>
<th>Investment amount (US$)</th>
<th>Project Status</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comsar Energy Group refinery, power plant and seawater desalination</td>
<td>1,500</td>
<td>planning phase</td>
<td>16 million tonnes per year of refined oil, 600-MW power plant, seawater desalination plant with a capacity of 10,000 cubic metres per day; <a href="http://www.comsar.com">www.comsar.com</a></td>
</tr>
<tr>
<td>Nambots Mobile Modular</td>
<td>400</td>
<td>Planning</td>
<td>Ecologically controversial phosphate extraction from the seabed, capacity initially 3 million tonnes per year; <a href="http://www.namphos.com">www.namphos.com</a></td>
</tr>
<tr>
<td>WindNam Wind Plant</td>
<td>944</td>
<td>planning phase</td>
<td>500 MW for export to the Southern African Development Community (SADC) region; <a href="http://www.innovent.fr/en/innosun/">www.innovent.fr/en/innosun/</a></td>
</tr>
<tr>
<td>Sandpiper Marine Phosphate Project</td>
<td>400</td>
<td>planning phase</td>
<td>Ecologically controversial phosphate extraction from the seabed, capacity initially 3 million tonnes per year; <a href="http://www.namphos.com">www.namphos.com</a></td>
</tr>
<tr>
<td>Nampower – power transmission projects</td>
<td>273</td>
<td>planning phase</td>
<td>400 kV Auas-Gerus (US$ 71 million), connection: Windhoek to Otjiwarongo; 400 kV Auas-Cokerboom 2 (US$ 126 million), link: Windhoek to Keetmanshoop, 400 kV Obib-Oranjemond (US$ 76 million), link: Obib to Oranjemund (South Africa); <a href="http://www.nampower.com.na">www.nampower.com.na</a></td>
</tr>
<tr>
<td>Nampower - Public Private Partnership (PPP) power plant projects</td>
<td>116.5</td>
<td>Tender/ planning phase</td>
<td>20-MW Khan Solar PV IPP (Independent Power Producer) Project (US$ 28.5 million) is tendered; 50-MW Wind IPP Project (US$ 88 million); <a href="http://www.nampower.com.na">www.nampower.com.na</a></td>
</tr>
<tr>
<td>Otjikoto Biomass Power Station</td>
<td>134</td>
<td>design phase</td>
<td>40 MW, planned completion 2023; <a href="http://www.nampower.com.na">www.nampower.com.na</a></td>
</tr>
</tbody>
</table>

Sources: Research by Germany Trade & Invest
ICT: COVERAGE CHALLENGED BY SMALL POPULATION AND LARGE AREA

Namibia is twice the size of Germany, but has a population of only 2.6 million – a significant hurdle for nationwide networks. The main mobile telecommunications provider is MTC, followed by TN Mobil with a market share of 4.5%. Both providers are state-owned, although there are plans to sell off parts of MTC. Other key players include Paratus, and the ICT group, MTN. The government supports access to shared infrastructure; MTN is looking to use the network infrastructure of Telecom Namibia for its cellphone services, while Paratus is making use of the extensive fibre network belonging to power utility, Nampower. By African standards, internet penetration remains below the continental average.

ENVIRONMENTAL PROJECTS: MANY WATER SECTOR PROJECTS ON THE CARDS

Finance sourced through development agencies, much of it from Germany, ensures a full order book in the water sector. Most recently, the African Development Bank has granted a loan of around US$122 million for drinking water supplies and the construction of treatment plants. Water supply, treatment, and recycling are also a central feature of German development projects in Namibia. A solar-powered desalination plant pilot project is currently underway in Walvis Bay. Large-scale use of desalination based on solar power is also under discussion, as is the exploitation of underground aquifers.

FOOD INDUSTRY: ‘FISHROT’ SCANDAL LEAVES A BAD TASTE

Key sectors include fish processing and beverages. Despite ongoing legal action, the corruption scandal surrounding the issuing of licences for fishing rights (‘Fishrot’ scandal) is not only harming the sector but the country as a whole. The Namibian government has set the ambitious target of increasing the volume of fish and other marine produce processed and packed on the spot to around 40% of the catch by 2021/22; this figure was just 10% at the start of 2018. South Africa’s ban on alcohol sales has hit the important brewing industry hard.

OIL AND GAS: PROSPECTING CONTINUES

The search for gas and oil fields off the Namibian coast has been ongoing for some years. The major protagonists in this search currently include major energy giants such as ExxonMobil, Total, Shell, as well as smaller players such as Tower Resources, Tullow Oil, New Age Energy, Algoa, and Chariot Oil & Gas. Prospects of offshore finds are seen as good, as is the legal and financial environment. Smaller-scale oil and gas explorations also take place onshore. The exploitation of natural gas from the Kudu offshore field has been the subject of discussion for decades.

AGRICULTURE, FORESTRY, FISHING: DROP IN DEMAND FOR QUALITY BEEF

Namibia’s dry climate means it is heavily dependent on food imports and can only cover 40% of its needs. Cattle breeding is an important foreign currency earner. The agriculture sector is currently emerging from a three-year drought, and herds will take time to recover. The global decline in demand for high-quality beef in the hospitality industry has also hampered recovery. Although some areas have suffered a fall army worm infestation and isolated locust swarms have been seen, a much improved grain harvest is expected. In spite of this, Namibia will still need to import much of its food. The Neckartal Dam will help irrigate around 5,000 hectares of agricultural land on completion.

HEALTHCARE: RELATIVELY FEW CORONAVIRUS INFECTIONS

The government is focusing its efforts on tackling Covid-19. To date, infection rates have been low. The finance available to help slow the Covid-19 pandemic is extremely limited in scope. Despite this, the Namibian government has been building up its treatment and healthcare capacities by establishing field hospitals, purchasing ventilators, and setting up test laboratories and quarantine facilities. Private hospitals, and not least businesses, have provided support in preparation for the still-awaited peak, with Covid-19 cases clustered around the port of Walvis Bay. Major private hospital operators include Medfam, PathCare, and Medicare.

CONSTRUCTION INDUSTRY: CRISIS COMPOUNDED BY COVID-19

Weak growth in recent years, but also the dominance of foreign construction companies thanks to well-connected middlemen, has plagued the construction industry. The construction industry is in permanent crisis, a situation exacerbated yet further by Covid-19. The government has promised to provide local construction firms with better support against foreign competition. Current projects include social housing and road building, and power station projects (wind, solar and fossil fuels) could also bring some respite to the sector. Little has been said about construction of the Tsumeb Smart City with hotels, a medical university, hospital, and apartments. There are plans to expand Windhoek Airport (Hosea Kutako International) and extend the Walvis Bay-Kranzberg railway (209 km).

ENERGY: WIND, SOLAR AND BIOMASS GENERATION PROJECTS PLANNED

Improved market conditions and the energy crisis in South Africa have meant that Namibia has attracted renewed attention as a location for public and private sector power generation.

By 2035, the Namibian government plans to have a wind power grid capacity of 220 megawatts as well as 149 megawatts solar power, and 80 megawatts biomass. There are also signs that contracts for public-private partnerships and projects are being implemented faster. 2020 may well see an easing of the monopoly enjoyed by power utility Nampower, while the market for small and micro solar power plants is far from saturated.

A feasibility study looking at the construction of a hydroelectric dam (Baynes Dam) on the border between Namibia and Angola is currently in progress.
It is a global trend that users of conveyor equipment do not have the knowledge and technical skill to solve their own technical issues. The newly formed REMA TIP TOP Consulting Solutions is expanding REMA TIP TOP's portfolio to be a solution provider rather than just a supplier of products.

The concept of predictive, preventative and reactive maintenance is a concept sometimes misunderstood by some clients. Predictive maintenance is a simple matter of inspecting a piece of equipment and noting risk to safety or operation. During the preventative phase, corrective action is taken, resulting in a reduction in reactive maintenance, which implies the failure shall be addressed when it happens. This is an expensive strategy as one might have to scurry around to find spares and pay overtime rates to the technical personnel to rectify the situation.

With the above in mind, a client in Saudi Arabia that purchased a large quantity of conveyor belting from Dunlop Industrial Products, requested REMA to perform an inspection at a Phosphate handling facility. During the inspection it became apparent that the client needed technical recommendations on how to correct operational issues, they also assisted by filling a consulting role. Damage that was experienced on the belting was due to a less than ideal design. In order to reduce belt wear, REMA advised the client to do away with the concept of using splice bars as a method to control the feed hopper to allow for an even material drawdown out of the storage bin, as shown in the sketch, thereby reducing surface pressure of the material on the belt and thus material pressure during the withdrawal process, stopping the formation of static material when the belt is withdrawing material, thereby reducing belt top cover wear.

“REMA TIP TOP Consulting Solutions are at the forefront of providing their clients with value-add opportunities that extend the life of their conveyor belting. This is due to a dedicated workforce and a firm commitment to research and development.”

Simply advising the client regarding the value of correct design and providing recommendations on how to implement such a project, added significant value to the client’s operations, enhancing material flow out of the bins and reducing belt wear significantly. In this process, a sizeable claim against Dunlop was avoided. Instead, REMA TIP TOP offered to assist the facility with having their belting and belt splicing attended to, significantly reducing risk to safety and continuous production.

With the knowledge and skill available within REMA TIP TOP Consulting Solutions, along with some prolific exposure and experience of the conveyor systems, REMA TIP TOP Consulting Solutions would be able to assist any client towards making his conveyor system operate at optimum efficiency at the lowest cost of ownership.

By Dr. Paul Nel
ZAMBIA

Lusaka (gtai) – Smaller harvests, energy supply problems and spiralling debt is steering Zambia into troubled waters.

ECONOMIC PROSPECTS
Several factors are putting pressure on the Zambian economy. Two extremely dry years have not only caused crop declines but have also led to shortages in food supplies. Water levels in the reservoirs are also extremely low, affecting the power supply in the country, which is 95% hydro-dependent.

At the same time, the scope for government support is very limited. A much longer-term government spending policy, financed by loans and bonds, has led to rising budget deficits as revenues stagnate. More than a third of the state’s budget will be used for interest payments in 2020. From 2021, the multibillion-Dollar Eurobonds issued in the boom will need to be repaid. As present, there is no money for this.

Currently, major investor China seems to want the implementation of infrastructure projects that have begun, to be completed. These have been generally financed by credit from the People’s Republic, which, according to World Bank estimates, now account for around 35% of Zambia’s total public debt. Observers assume that Beijing will agree to debt restructuring, but do not rule out Chinese interest in debt-for-equity swaps, i.e., converting debt into shares in copper mines, for example.

On the positive side, the prices of raw materials, especially Zambia’s main export product copper, are expected to rise again in future. This would not only generate revenue, but would also support the national currency, the kwacha, thereby reducing imports, boosting consumption, and stimulating investment in the mining sector.

Consolidating the national budget by reducing expenditure, such as subsidies or staffing, or increasing revenue through taxes, seems difficult to implement in the run-up to the 2021 elections. This prevents the International Monetary Fund (IMF) from engaging in resolving the debt crisis.

INVESTMENT: THE GOAL IS DIVERSIFICATION
At the core of the seventh National Development Plan for 2017 to 2021, is a broader economic base. The wish is to have an expansion of industries that will further grow, the extension of the value chain in agriculture and the expansion of mining to include additional resources – as well as the promotion of renewable energies to become more independent of hydropower. The prerequisite is the strengthening of the infrastructure.

Numerous projects are being implemented – from the construction of roads to new airports to the densification of mobile phone radio detectors in the country. However, not all projects are seen to be implemented in a sensible or efficient manner.

The IMF estimates that the investment ratio will decline by 35 to 37% of gross domestic product (GDP) in the coming years as a result of the narrowing financial leeway for manoeuvre, after peaking at 43.3% in 2018.

CONSUMPTION: PRICE INCREASES DETER
Higher prices for food, electricity and fuel are limiting the buying power of consumers in Zambia. Inflation was close to 10% in 2019 and is expected to remain at that level in 2020. Due to drought and low harvests in the countryside in particular, incomes are often not sufficient. A decline in total private consumption is therefore expected in 2020 and will not increase again until 2021, when the mining economy picks up and agriculture stabilises.

An average growth rate of 2.8% of the population could potentially lead to an increase in the number of consumers and good conditions for the sale of consumer goods. However, according to the World Bank, more than 55% of Zambia’s residents live in poverty (less than US$ 1.90 in income per day). The affluent consumer population is concentrated in cities, while in the rural areas; three quarters of the people are affected by poverty.

FOREIGN TRADE: MAJOR PROJECTS SUPPORT IMPORTS
Zambia’s foreign trade fell by more than a fifth in 2019, according to preliminary data from the Zambia Statistics Agency. The main causes are lower export volumes of the main export product copper, as prices are falling at the same time, and lower imports of consumer goods due to less purchasing power. In national currency terms, however, exports have remained stable and imports have decreased significantly less, by 6.3%. With the consolidation of the international copper market, exports are expected to pick up in future. Imports are currently boosted by capital goods for public investment projects and the import of electricity. Zambia’s main suppliers in 2019 were China (14%), the United Arab Emirates (10.3%) and India (4.9%), with a share of 31%. The most important destinations for Zambian exports include China, South Africa and the DRC.
KEY ECONOMIC DATA
indicator | 2017 | 2018 | Comparative Data Germany 2019
--- | --- | --- | ---
GDP (nominal, billion US$) | 25.7 | 26.7 | 3,846.6
GDP per capita (US$) | 1,570 | 1,583 | 46,286
Population (million) | 16.4 | 16.9 | 83.1
Exchange rate (annual average, 1 Euro = x Kwacha [K]) | 10.82 | 12.45 | -

Sources: Bank of Zambia, Deutsche Bundesbank, Federal Statistical Office

SWOT ANALYSIS

Strengths
- A wealth of raw material deposits
- Abundance of water
- Extensive road network
- Relatively stable political situation
- Regional collaboration in SADC

Weaknesses
- Inland situation results in high transport costs
- One-sided dependence on hydro-energy
- Lack of skilled workers
- Insufficient management of the economy
- Low diversification of the economy

Opportunities
- Extraction of other raw materials, in addition to copper
- Use of renewable energy, especially solar
- Great agricultural potential
- Rising consumption due to growing middle class
- Improved infrastructure

Threats
- Strong dependence on copper mining and world market prices
- High public debt
- Increasing political tensions
- Food scarcity due to inefficient agriculture
- Confined by economic crisis in South Africa

SELECTED MAJOR PROJECTS

<table>
<thead>
<tr>
<th>Project</th>
<th>Investment amount (US$)*</th>
<th>Project Status</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expansion of the Kansanshi Copper Mine</td>
<td>1,000</td>
<td>planning</td>
<td>Production increase to 300,000 t annually; First Quantum Minerals (Canada); <a href="http://www.first-quantum.com">www.first-quantum.com</a></td>
</tr>
<tr>
<td>Modernisation of Kenneth Kaunda Airport, Lusaka</td>
<td>360</td>
<td>Completion postponed to April 2021</td>
<td>Financing problems: Exim Bank of China stopped payments</td>
</tr>
<tr>
<td>Copperbelt International Airport, Ndola</td>
<td>397</td>
<td>Execution; Interior decoration awarded; Completion planned for 2020</td>
<td>Capacity for a million passengers; Construction work at AVC International (China), contract for interior awarded to Egis Avia Consultants; <a href="http://www.egis-group.com">www.egis-group.com</a></td>
</tr>
<tr>
<td>Kasomeno Mwenda Bridge and dual carriageway between Zambia and DR Congo</td>
<td>n.A.</td>
<td>planning</td>
<td>Road, bridge across border river Luapula and toll stations to be built as a public-private partnership (PPP)</td>
</tr>
<tr>
<td>Conference centre in Lusaka</td>
<td>n.A.</td>
<td>Procurement; Completion for the Africa Summit 2022</td>
<td>23,950 m² with a hall for 2,500 people and several smaller conference rooms; commissioned by China Jiangsu International Economic and Technical Group; <a href="http://www.cnjsgroup.com">www.cnjsgroup.com</a></td>
</tr>
<tr>
<td>CRZ Communication Tower Project, Phase II</td>
<td>n.A.</td>
<td>Under construction, so far 746 cell phone masts erected; Completion planned for 2020</td>
<td>Construction of 1,009 cellphone towers across the country; Zamtel <a href="http://www.zamtel.zm">www.zamtel.zm</a></td>
</tr>
<tr>
<td>Processing plant for gold in Rufunsa</td>
<td>2,75</td>
<td>Planning</td>
<td>ZCCM Investment Holdings has begun mining gold in parts of the country; <a href="http://www.zccm-ih.com.zm">www.zccm-ih.com.zm</a></td>
</tr>
<tr>
<td>Raupe Gorge Hydropower Station</td>
<td>2,000</td>
<td>Under construction, work stopped following Zesco payment problems</td>
<td>State-owned energy company Zesco was unable to secure follow-up financing; so far it has invested US$ 1.2 billion; Project execution by Sinohydro (China); <a href="http://www.powerchina.cn">www.powerchina.cn</a></td>
</tr>
<tr>
<td>Upgrade TAZARA railway</td>
<td>n.A.</td>
<td>Planning</td>
<td>Planning meeting between Tanzania and Zambia in October 2019, recapitalisation agreed, implementation uncertain; <a href="http://www.tazaraisle.com">www.tazaraisle.com</a></td>
</tr>
<tr>
<td>Two solar power plants in northern and central Zambia</td>
<td>200</td>
<td>Planning and construction should begin in the 1st quarter of 2020</td>
<td>Plant with 135 megawatts (MW) in the north and 65 MW in the copperbelt; Unverigy Solar Company (USC), Spain / Japan; <a href="http://www.unverigy.com">www.unverigy.com</a></td>
</tr>
</tbody>
</table>

Sources: Germany Trade & Invest; press releases

*) Conversion based on the exchange rate 1 Euro = 16.2217 K.

Notes:

- GDP: Gross Domestic Product
- Inland: Country that borders many other countries
- SADC: Southern African Development Community
- PPP: Public-private partnership
- ZESCO: Zambia Electricity Supply Corporation
- ZCCM-IH: Zambia Copper and Chishimba Minerals - Investment Holdings
- USC: Unverigy Solar Company

Map credit: ANU Map Library

Map sources: World Bank, World Fact Book


Imports: 9,462.2 (2018); 7,221.3 (2019); Change: -237
Exports: 9,034.7 (2018); 7,302.7 (2019); Change: -192
Trade Balance: -427.6 (2018); 81.4 (2019)
SECTOR SURVEY

Zambia seeks to broaden its economy but copper mining continues to be its main source of revenue.

ENERGY INDUSTRY: HIGH DEPENDENCY ON HYDROPOWER

The drought of 2018 and 2019 has shown how problematic it is that Zambia is 95% dependent on hydropower. Because of the low water levels in the dams and frequent power outages, efforts to implement alternatives are becoming more urgent. In addition to the construction of a second coal-fired power plant in Maamba, this focuses mainly on solar energy, as Zambia offers excellent conditions with an average of 5.5-kilowatt hours per square metre per day. The Scaling-up Solar programme, funded by the World Bank, aims to build capacity of at least 600 megawatts.

CONSTRUCTION INDUSTRY: MAJOR PROJECTS ARE CONTINUING

The massive expansion of infrastructure presents opportunities and risks for Zambia. Negative consequences include above all a high debt burden due to extensive credit financing. There have already been delays and construction stops due to payment problems. Work on the Kafue Gorge Dam has been temporarily suspended, while other projects, such as the construction of the overland roads in the northern province of Luapula and the airport terminal in Lusaka, are continuing, albeit with delays. The mostly Chinese contractors usually push for on-time completion and finance this with additional loans if necessary.

HEALTH SECTOR: HUGE GAPS TO FILL

The National Strategic Plan for the Health Sector 2017 to 2021 envisages the strengthening of primary care, by providing for an additional 162 health centres nationwide and the establishment of 36 district hospitals. All clinics are expected to expand their range of services, for example - in the areas of surgery and anaesthesia. Zambia relies on mobile units to reach patients in remote areas. However, the supply is still inadequate. In 2016, one third of the jobs planned in the health sector were vacant, and the future need for vocational training is high.

AGRICULTURE, FORESTRY, FISHERIES: DROUGHT REDUCES YIELDS

Zambia has abundant land, fertile soil and sufficient rainfall – all the conditions for high-yield agriculture. However, rising temperatures and lower rainfall has shown the limits of the climatic development of recent years. Countermeasures implemented include the adaptation of crop rotations, increased recourse to irrigation and significantly improved agricultural logistics. This includes the promotion of alternative crops, stronger professionalism and use of technology for farms. Aquaculture or beekeeping can complement agriculture economically.

MINING: NEW RAW MATERIALS IN FOCUS

Inconsistent tax laws and the controversial liquidation of one of the country’s largest mines, the Konkola mine, are currently causing instability in Zambia's mining sector. However, with global prices for copper rising, substantial investments are expected in future. First Quantum has announced plans to invest US$ 1 billion in the expansion of its Kansanshi mine. Zambia is also trying to extract more additional mineral resources in order to spread the market risk more widely. The state-owned Zambia Consolidated Copper Mines (ZCCM) plans to mine gold with a new company.

FOOD PROCESSING: USE OF RESOURCES

The potentially broad-based agriculture provides a rich basis for the production of food. With increased cultivation of animal feed and professionalised animal husbandry, Zambia can strengthen its position in the processing of fish, meat and poultry products. Large companies such as Zambeef or aquaculture specialist Yalelo are investing heavily in their freezer chains and distribution systems. Alternative crops such as chilli peppers or cashew nuts will be increasingly processed locally and packaged for export.

ENVIRONMENTAL TECHNOLOGY: WATER IS A CENTRAL ISSUE

The rapid growth of Zambian cities, coupled with dropping groundwater levels and irregular rainfall, pose new challenges for municipalities. The first priority is the water supply and its treatment. Another pressing problem is the regular emptying of cesspits to the construction of sewage treatment plants in sanitation. Two plants in the capital Lusaka in Ngwerere and Chunga are to be put out to tender in June 2020. In 2018, a new Waste Act was passed and is expected to drive the development of waste disposal in the coming years.

ICT: EXPANSION OF MOBILE TELEPHONY

Communication over mobile networks is a bridge to accelerated development in many African countries. Information and services can also be accessed via mobile phones in remote parts of the country. Zambia is significantly expanding its transmission power network. Around 600 out of 1,009 new sites planned for the end of 2020 are already in operation. Huawei is the technology partner, as is often the case in the region. The greater integration of the rural population now offers a growing customer potential for mobile services. The national operator Zamtel, for example, now also offers mobile payment systems.
The greater the storm, the brighter the rainbow

To address these unprecedented times and beyond, Rödl & Partner is optimally positioned for both business and personal needs. Our experienced team includes German speakers with a wealth of knowledge in their specialised fields. We offer our clients the following complete range of services:

Audit | Legal & Tax | Business Advisory Services | IT Consulting | Outsourced Accounting & Payroll Services

Our interdisciplinary approach, global reach and understanding of German and South African businesses enables Rödl & Partner to take your business beyond the numbers.

Let us support you, your families and businesses during these challenging times.

Rödl & Partner

Johannesburg
Phone: +27(11)479 3000
johannesburg@roedl.com

Cape Town
Phone: +27(21)418 2350
kapstadt@roedl.com

www.roedl.com
ECONOMIC PROSPECTS

The prospects for the Zimbabwean economy were bleak even before the Covid-19 crisis. The recent drought has led to reduced harvests and food shortages, and has hampered electricity generation, which is largely reliant on hydroelectric power. Currency turbulence has impacted foreign trade, and, together with sanctions and legal uncertainty has dealt a near-fatal blow to inward investment.

Although like many other countries in southern Africa, Zimbabwe reacted promptly to the Covid-19 pandemic, and slowed the spread of the disease. Closed borders and lockdowns have further curtailed economic activity. The informal sector, on which much of the population relies, has also suffered. Revenue from tourism and remittances from Zimbabweans overseas have come to a temporary halt.

Gross domestic product (GDP) fell by 8% in 2019. Although forecasts for 2020 vary considerably because of countless imponderables, they show a clear trend: Zimbabwe is one of the worst affected countries economically. Predictions of the actual change in GDP range from -7.5% to -8.5% (AFDB) and even -10.4% (IMF) to -15.5% (EIU). It remains unclear whether 2021 will see a recovery. AFDB (2.7-3.5%) and the IMF (4.2%) are more optimistic compared with the EIU which anticipates an upturn only in 2022.

INVESTMENT: UNFULFILLED HOPES

With the slogan ‘Zimbabwe is open for business’, President Emmerson Mnangagwa entered office in November 2017 seeking a sea-change in the investment climate. However, any hopes of boosting long-term inward investment beyond the initial rise of 113% in 2018 to US$745 million were dashed in 2019 as the figure recorded by UNCTAD fell to US$280 million.

Zimbabwe is dependent on capital inflow due to a near-permanent trade deficit. According to the IMF, the country attracted foreign investment amounting to an average of just 16% of GDP between 2004 and 2017, while its neighbour Zambia posted a figure of around 6%. Public investment remained low within the context of a chronic budget deficit and a challenging environment in general.

CONSUMPTION: PRECARIOUS SUPPLY OF CONSUMER GOODS

From 2009 to 2019, Zimbabwe did not issue its own currency, and payments were made mainly in US Dollars. Due to the permanent payment deficit however, not enough of these were available. The government therefore introduced a parallel settlement unit called RTGS (Real-Time Gross Settlement) for internal banking transactions with an initially fixed exchange rate of 1:1. Printing of money to cover the deficit subsequently meant the rate diverged sharply, with the result that the Zimbabwean Dollar, which was reintroduced in 2019 based on the RTGS, was still only worth US$ 0.03-0.04 in the middle of 2020. Anyone exchanging money on the parallel market was therefore faced with even higher prices for foreign currency.

All this resulted in a dramatic surge in the inflation rate, the average for 2020 sitting at around 500%. The already worsening supply of consumer goods to the populace was further exacerbated by crop failures and disruption to distribution channels due to the Covid-19 crisis. The shortage of foreign currency means that suppliers shipping to Zimbabwe run a high risk of non-payment.

FOREIGN TRADE: EXPORTS FOCUS MAINLY ON RAW MATERIALS

Gold, platinum, and tobacco are the country’s main exports, accounting for more than 70% of all exports in 2018. Due to failed crops and falling prices for tobacco, interruptions to mining activity due to an energy shortage, and the disruption to shipping and freight due to Covid-19, a further downturn is inevitable in 2020 following a difficult 2019. Despite increased demand for food, energy, and medicinal products, this will also limit the scope for imports.

Far and away Zimbabwe’s most important trade partner is South Africa, which also performs something of a transit function for the landlocked nation. In 2018, 51.7% of exports went to Zimbabwe’s neighbour, followed by the United Arab Emirates (18%), and Mozambique (9.7%). Leading importers include South Africa (39.3%), Singapore (21.7%), and China (5.7%). Key imports include fuel, food, machinery, and vehicles, as well as electricity.
KEY ECONOMIC DATA

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2018</th>
<th>2019</th>
<th>Comparative data for Germany, 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP (nominal, billions of US$)</td>
<td>22.9</td>
<td>20.7</td>
<td>3,846.6</td>
</tr>
<tr>
<td>GDP per capita (US$)</td>
<td>1,593</td>
<td>1,418</td>
<td>46,286</td>
</tr>
<tr>
<td>Population (millions)</td>
<td>14.4</td>
<td>14.6</td>
<td>831</td>
</tr>
<tr>
<td>Exchange rate *)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*) Reliable figures are unavailable due to the extreme volatility of the exchange rate
Source: IMF, EIU, Federal Statistical Office

FORIEGN TRADE (US$ MILLIONS)

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
<th>2019/2018 change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imports</td>
<td>7,017</td>
<td>5,445</td>
<td>-28.4</td>
</tr>
<tr>
<td>Exports</td>
<td>5,304</td>
<td>4,634</td>
<td>-12.6</td>
</tr>
<tr>
<td>Balance of trade</td>
<td>-2,673</td>
<td>-811</td>
<td></td>
</tr>
</tbody>
</table>

*) Goods and services
Source: IMF

SWOT ANALYSIS

Strengths
- Rich deposits of mineral resources
- Good agricultural potential
- Comparatively diversified economy
- Relatively high level of education
- Good access with roads

Weaknesses
- Inland location without access to the sea
- Inflexible administration
- Investment backlog in infrastructure
- Brain drain
- Currency turbulence

Opportunities
- Upgrading old production structures
- Use of country’s broad tourism potential
- Traffic hub for the SADC region
- Cooperation at political level
- Stabilisation of the currency

Threats
- Food supply problems
- Social unrest
- Unreliable energy supply
- Hyperinflation
- Unclear property rights

SELECTED MAJOR PROJECTS

<table>
<thead>
<tr>
<th>Project</th>
<th>Investment amount (millions US$)*</th>
<th>Project Status</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chiredzi solar power plant, 90 megawatts</td>
<td>88</td>
<td>Start of construction planned for October 2020</td>
<td>Triangle Solar System (TSS)</td>
</tr>
<tr>
<td>Extension to Harare Airport</td>
<td>153</td>
<td>In progress; should be operational from January 2021</td>
<td>China Jiangsu International</td>
</tr>
<tr>
<td>Extension of the Harare-Beitbridge highway to four lanes, 570 km</td>
<td>1,200</td>
<td>In progress; completion scheduled for 2022; gradual implementation with local firms, has already been much delayed</td>
<td>Zimbabwe National Roads Administration (ZINARA)</td>
</tr>
<tr>
<td>Blanket Mine Solar Farm, 19.65 megawatts</td>
<td>n/a</td>
<td>Contract awarded</td>
<td>Caledonia Mining Corporation (Canada)</td>
</tr>
<tr>
<td>Gwanda Solar Project, 100 megawatts</td>
<td>5</td>
<td>Start of construction following resolution of legal disputes</td>
<td>Zimbabwe Power Company (ZPC); Intratek</td>
</tr>
<tr>
<td>Cultivation of medicinal cannabis</td>
<td>18</td>
<td>Start in HY2 2020</td>
<td>Eco Equity (UK)</td>
</tr>
<tr>
<td>Solar power plant construction; 500 megawatts</td>
<td>n/a</td>
<td>Invitation to tender</td>
<td>Zimbabwe Electricity Transmission and Distribution Company (ZETDC)</td>
</tr>
</tbody>
</table>

*) Conversion based on the exchange rate 1 Euro = 16.2217 K.
Sources: Research by Germany Trade & Invest; press releases
SECTOR SURVEY

Despite their enormous potential, mining and agriculture contribute comparatively little to Zimbabwe’s economy. Agriculture accounts for about 10% of GDP and mining contributes about 7%. Manufacturing has consistently contributed less to GDP over the past decade, making up about 13%, while services account for about two-thirds of GDP.

ENERGY:

DROUGHT CAUSES HYDROPOWER OUTAGES
Coal and hydropower each generate about half of Zimbabwe’s electricity generation capacity of around 2,337 megawatts. Kariba Dam on the Zambezi and the Hwange coal-fired power station supply the country with electricity. The poor condition of many plants and low water levels due to several years of drought are resulting in lower production and regular power outages. Projects to construct small hydropower and solar power plants are attracting attention as are alternative energy sources such as bagasse or ethanol.

MINING:

WIDE RANGE OF MINERAL RESOURCES ENABLES OFFSET OF RISKS
Unlike neighbouring Zambia or Botswana, where mining is restricted to a few products, Zimbabwe has more diversified deposits. The country has the third largest reserves in the world for platinum group metals, after South Africa and Russia. Much attention is being paid to gold mining and the extraction of diamonds. Investment is more attractive to foreign companies following the lifting of the minimum share of 51 percent local ownership in 2018. The restrictions on foreign exchange is however, a problem.

CONSTRUCTION:

LOW PLANNING RELIABILITY SLOWS DOWN INVESTMENT
The African Development Bank has concluded that the physical infrastructure has deteriorated significantly over the past two decades, due to sparse investments. There is now a great need for the renewal of roads and railways, and in the energy and water supply. Due to low public funding and a poor framework for international investment, it is not to expected that major contracts will be awarded until further notice. This has resulted in the Harare-Beitbridge road project being divided into several sections to be commissioned locally.

HEALTH CARE:

CORONA CRISIS PUTS AILING SYSTEM TO THE TEST
The health sector has suffered in recent years because of the condition of the country’s 214 hospitals and the exodus of medical staff. According to the National Health Plan 2016-2020, only one province (Bulawayo) has achieved the hospital bed target of 25 per 10,000 inhabitants. Zimbabwe needs international and private aid to meet the demands of the Covid-19 epidemic. Local businesses are helping hospitals with equipment.

AGRICULTURE, FORESTRY, FISHERIES:

DROUGHT PUTS PRESSURE ON AGRICULTURE
The agricultural sector’s potential is due to fertile land, a favourable climate and exportable products. However, deficiencies in infrastructure, training and equipment, and political interventions, have led to declining productivity over the past 20 years, intensified by the drought. Income can be increased by investing in equipment, irrigation systems and by improving marketing channels. In the face of climate change, strengthening better-suited products could increase the stability of harvests.

FOOD PROCESSING:

DAMPENED PROSPECTS UNTIL FURTHER NOTICE
After the political upheaval at the end of 2017, the hopes of the economy opening up boosted the consumer goods industry. According to the latest available statistics, food, beverages and tobacco account for around one third of Zimbabwe’s manufacturing sector. Rising incomes and greater consumer confidence, along with fast-growing formal retail, should give the industry momentum. The Corona crisis is currently causing the opposite and has resulted in high inflation, job losses, and political tensions.

TEXTILE AND CLOTHING INDUSTRY:

COLLAPSE OF SUPPLY CHAINS
While relaunching cotton cultivation would provide the raw material for a broader local textile industry the investment environment, high inflation and foreign exchange bottlenecks, make industrial engagement less appealing. The Covid-19 crisis has further affected reintegration of existing production plants into global distribution chains. Many businesses remained closed in the lockdown. Home industry has experienced a boom, stimulated by the production of protective masks.

ENVIRONMENT:

WASTEWATER NETWORK IN POOR CONDITION
The 2019 African Development Bank (AfDB) report on Zimbabwe’s infrastructure paints a bleak picture of blocked sewage pipes, non-operational water treatment systems, missing chemicals and decaying water distribution systems. Power outages and drought exacerbate the situation. Redress is difficult. The public sector does not have the resources. Water tariffs do not cover costs, which tends to deter private investors. The AfDB estimates that the investment needs to be US$ 3.67 billion, up to 2030. A large part will be spent on the repair of existing plants.

ICT:

NECESSITY IS THE MOTHER OF INVENTION
Bottlenecks and restrictions on the supply of cash have caused a boom in electronic payment methods. The importance of this became clear in June 2020, when the government wanted to stop the use of mobile money to suppress parallel exchange rates, but had to step back, as this would have affected a significant proportion of all payment transactions. There are shortcomings in the digital infrastructure: Zimbabwe lags behind in terms of access to the Internet and the speed of transmission of data in a regional comparison.
Become a Fendt dealer

EXPRESSION OF INTEREST

AGCO, a global leader in the manufacture and distribution of agricultural machinery, is inviting successful companies to become strategic partners to build a strong dealer network in South Africa around its premium brand Fendt. If your company is involved in or wants to expand their agribusiness and is ready to invest in a world renowned brand with long-term growth prospects, this is the perfect opportunity.

WE OFFER:

• Premium product line – Fendt is a high-tech brand and an innovation leader in agricultural machinery
• Growing range – Fendt machinery beyond wheeled tractors will be added to South African product line-up
• Profitability - Committed partnership to help you build a sustainable and profitable business
• Cooperation - Comprehensive dealer support and development
• Exclusivity – Large territory

To receive more information, please contact AGCO (Fendt) team on:
RSA.Distribution@agcocorp.com or visit www.fendtdealer.co.za

It’s Fendt. Because we understand Agriculture.
The greater the storm, the brighter the rainbow

To address these unprecedented times and beyond, Rödl & Partner is optimally positioned for both business and personal needs. Our experienced team includes German speakers with a wealth of knowledge in their specialised fields. We offer our clients the following complete range of services:

Audit  |  Legal & Tax  |  Business Advisory Services  |  IT Consulting  |  Outsourced Accounting & Payroll Services

Our interdisciplinary approach, global reach and understanding of German and South African businesses enables Rödl & Partner to take your business beyond the numbers.

Let us support you, your families and businesses during these challenging times.

Rödl & Partner

**Johannesburg**
Phone: +27 (11) 479 3000
johannesburg@roedl.com

**Cape Town**
Phone: +27 (21) 418 2350
kapstadt@roedl.com

As an integrated German-based professional services firm, Rödl & Partner is active at 109 wholly-owned locations in 49 countries. Our clients trust 5.120 colleagues in the service lines audit, legal, management and IT consulting, tax consulting as well as tax declaration/BPO.