



## GAUTENG PROVINCE

INFRASTRUCTURE DEVELOPMENT  
REPUBLIC OF SOUTH AFRICA

# GAUTENG INFRASTRUCTURE NEWS

Stakeholder News and Information

Issue 5 | May 2018



The Drone capabilities in summary



MEC tells Construction Expo efficiency drives sector confidence



Motlotlo Primary School saves big on water



**Infrastructure Update:** the pulse of Engineering and Construction



## DID BUDGET ✓TE SPEECH

# 26 June



The Gauteng MEC for Infrastructure Development  
**MR JACOB MAMABOLO**  
to present the 2018/19 Budget Vote Speech



# DID launches Drone monitoring of construction project sites



Drone View of a construction site

By Alfred Nhlapo

The size and scale of the portfolio of infrastructure projects implemented by the Department of Infrastructure Development, which runs into dozens at a time and more than three hundred over a three year financial period, requires more active monitoring of progress and a lot of project managers' time and effort. A new intervention has now been made to complement and ease the human element.

Drones flying over construction project sites to monitor progress made by contractors and officials doing work on behalf of the department is now official policy in the province. The drone is a five legged mini airplane the size of a standard laptop computer with the ability to take pictures and send them to a central control unit for further processing and analysis.

The department will use the information produced by drones to deliver projects more efficiently by combining the drone's artificial intelligence with business and human intelligences.

The initiative was announced at a public launch in late May 2018 within the construction site of new additions to the existing Philip Moyo Community Health Centre, in Etwatwa, Daveyton.

The Ekurhuleni Member of the Mayoral Committee for Development Planning Councillor Masele Madihlaba accompanied MEC Jacob Mamabolo and his of Head of Department Mr Bethuel Netshiswinzhe in unleashing the drone to start its work.

"It is possible for the public sector to be efficient and to be productive in what we do and that is exactly what we are demonstrating today", said the MEC.



Councillor Madihlaba said the construction of additional facilities at the clinic was a demonstration of the commitment of the government to the improvement of the quality of life of citizens through investment in quality social infrastructure.

The three principals also witnessed a mock flyover of the drone to different parts of the construction site on the day, and to much excitement. Its capabilities include taking live pictures which can be fed to an online platform for interpretation. It was flown by a trained drone pilot Mr Moloi Moloiwane who is also an official of the department.

The DID Head of Department at Mr Bethuel Netshiswinzhe also said the technology intervention would allow DID to identify blockages in the delivery of construction projects to visit sites, troubleshoot and intervene to improve our project management performance and productivity.

The launch comes after a successful piloting at several construction sites managed by the department earlier this year. The department said the results of the pilot project enabled the organisation to compare official progress reports with data produced by the drone and



During the drone programme launch

Photos by Lindo Mnguni

also make interventions where necessary. Efficiency is the keyword in this regard.

The trio of intelligences is part of ensuring that the stakeholders of the department are always given project performance information that has integrity which can stand the test of time. The organisation is confident it will deliver quality public facilities on time and within budget even better than before.

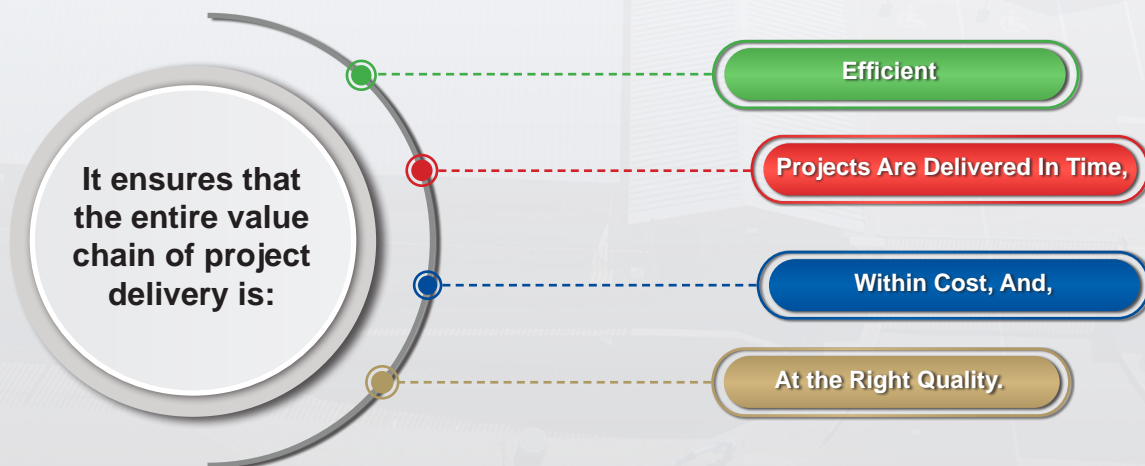
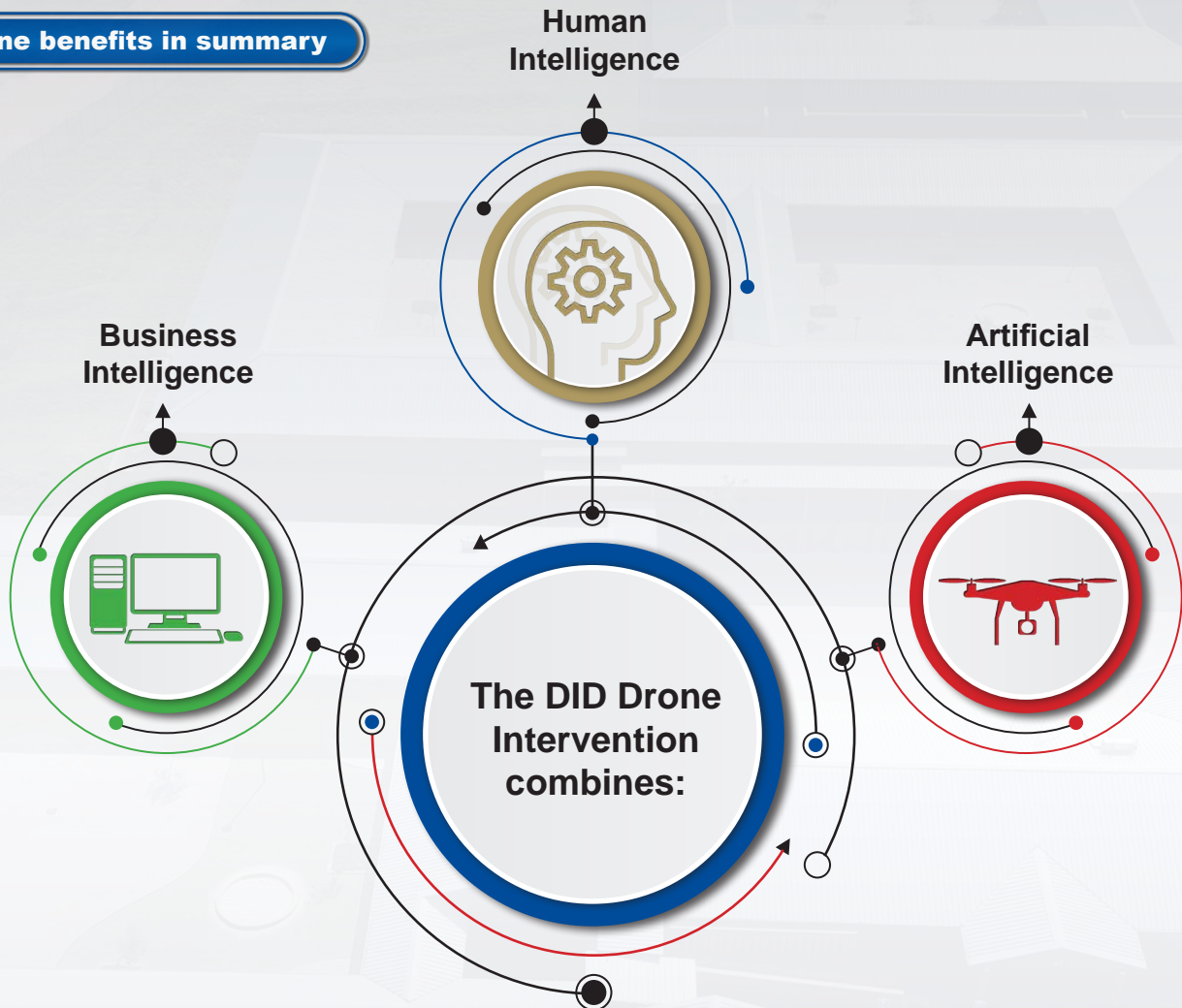
The MEC also had a live online conversation with an infrastructure expert from the USA, Mr Paul Barsamian on the use of technologies to accelerate infrastructure delivery. Mr Barsamian said technology had the potential to create even more jobs if its capabilities were optimised.



## The Drone capabilities in summary

By Theo Nkonki and Morati Sethabela

### Drone benefits in summary



The project pipeline will furthermore, become an early warning system and will improve our speed of delivering projects to communities, as well as improving project management efficiencies.

MEC's Page: Window to Infrastructure

## MEC Mamabolo tells Construction Expo efficiency drives sector confidence

By Alfred Nhlapo

Delegates to the 2018 African Construction Expo and Conference held at the Gallagher Convention Centre earlier in the year had a familiar keynote speaker on matters of infrastructure in Gauteng, with a frank and inviting message from the Provincial Government. The message said the only way to build confidence in the construction and build environment, and related industries, is through strong Public Private Partnerships through which role players will pull their resources together to ensure efficiency in project delivery. Private investors are welcome to contribute.

The PPPs would not only make it easier to fund the massive public infrastructure build programme in which government has invested more than a trillion rand on behalf of communities, but would also build efficiencies in skills and implementation capabilities across the business value chain. Knowledge would also be easier to share between the public sector and their private sector counterparts, and would lead to the development of cutting edge solutions benchmarked against the latest trends and practices.

The other important task is to use the latest technological advancements to develop infrastructure solutions that will bring value for money for communities and the sector as a whole. The creation of sustainable jobs also relies heavily on the development and imparting of relevant skills needed by the various technical disciplines.

The message was delivered by Infrastructure Development MEC Jacob Mamabolo. He was addressing the second such gathering of stakeholders, following a similar address in early 2017. The delegates, who included representatives of development finance institutions, technical professional associations and infrastructure practitioners such as engineers, architects and development planners paid much attention as the lawmaker outlined the government approach to infrastructure development challenges.

Mamabolo indicated that his department had already taken up the technological challenge by developing and deploying proactive project management and monitoring systems such as the Project Readiness Matrix that tests project readiness, as well as the Lutsinga Infrastructure House which tracks progress on projects currently underway.

Turning to the department's latest innovation of categorising projects according to their readiness for implementation and then prioritising only the ones that pass the Project Readiness Matrix test, he said sixty three (63)



*DID stand at the African Construction Expo and Conference*  
Photos by Tshisikhawe, Thangavhuelelo

Platinum projects were due for implementation during the 2018/2019 financial year. The benefit of the Platinum category is that its success would depend on contractor performance since the department has eliminated all known project risks and only made room for unanticipated disruptions or the Force of Nature. Contractors would thus not be much affected in terms of the cost of project risks.

"I am aware that the high industry prices lead to enterprises cutting down on their real costs of delivering projects in order to qualify for tenders and thereafter end up not being able to deliver quality work. This price effect then leads to enterprises becoming less competitive in terms of project delivery capabilities and operations. That is why we are now presenting a transparent project pipeline that makes information publicly available so as to empower industry players", said MEC Mamabolo.

The MEC said his department is building confidence in the sector by driving efficiency in its own project portfolio in view of the current paradox that shows that the increasing infrastructure investment by government is not met by equitable sentiment from industry players. He said this was partly due to a lack of efficiency in project management and this was now being addressed with the urgency and seriousness it deserves. Accountability, transparency and high performance are key areas of emphasis in the department's new approach.

"The advantage of our newly categorised project pipeline is that we know where each project is in terms of our project delivery value chain. As part of improving our efficiency we have also introduced the DID Drone as a project management tool that feeds into our business intelligence and project management



*MEC Jacob Mamabolo*

dashboards. We are giving this information so as to show that we are serious about improving the performance of our project sites. We do not want inefficiencies to lead to the massacre of small business enterprises. Our aim is to deliver through the three variables in our project delivery space, namely timely delivery, high quality, and adherence to budget allocations", said the MEC.



*Chief Director Amanda Monnye*



## Motlotlo Primary School saves big on water



The Minister of the Department of Water and Sanitation has appealed to business to consider collective action in resolving SA's water challenges. The current drought and the water shortage in Gauteng are also having a negative impact on the schools. It has also been observed that in most schools with water supply there is significant water consumption; with unreasonable water bills accumulating interests every month and consequently consuming a large portion of the schools budgets.

Considering the water crisis in the schools, the Department of Infrastructure Development (DID) embarked on a waste water recycling project. The project will ensure water security at schools by recycling and re-use of water for flushing throughout the province.

The project involves the installation of a biomite waste water recycling system that allows for full flushing toilets even in water scarce areas. The technology does not require a sewer connection. The technology incorporates the process to clean incoming waste water that was used for flushing. The life span of the technology is approximately 20 years before it can be replaced.

The merits of the project include full flush toilet in a waterless area, requires no fresh water supply for flushing, recycles the waste water and uses it to flush the toilet. The technology provides waterless sanitation solution to the school. Additional merits include budgetary expenditure reduction for water and sewerage.

The system was installed at Motlotlo Primary school in Sebokeng. The school has over 600 learners. This primary school was selected because it has water shortages and receives a very high water bill on a monthly basis. This project is fully funded by The Innovation Hub. A contract was signed between The Innovation Hub and the service provider on the 19 September 2016. Construction of the waste water recycling facility commenced in October 2016 and the site handed over on the 25 November 2016.



### How the waste water recycling technology works

The process is purely the biological breakdown of organic solids entering the treatment plant. The biomite process cleans the domestic waste water in three basic steps:

- Anaerobic digestion - primary treatment is done in the septic tanks/ anaerobic reactors. The anaerobic process occurs in enclosed tanks to prevent access to oxygen. The solids are intercepted and biologically broken down by anaerobic microorganisms that are in contact with the waste water. The anaerobic section reduces the Biological Oxygen Demand (BOD) loading of the waste treatment stream before it flows into the biological reactor for secondary treatment.
- Aerobic digestion, which is a secondary treatment done in the aerobic biological reactor. The aerobic section further reduces the BOD loading and reduces nutrients (mainly nitrates and nitrites) from the waste stream.
- Disinfection process, the waste water from the secondary treatment process is subjected to chlorination. This process kills any remaining pathogens in the waste water stream to provide for clarified effluent ready for any non-potable re-use. This is a precautionary measure against pathogens that may have passed on from the second stage.



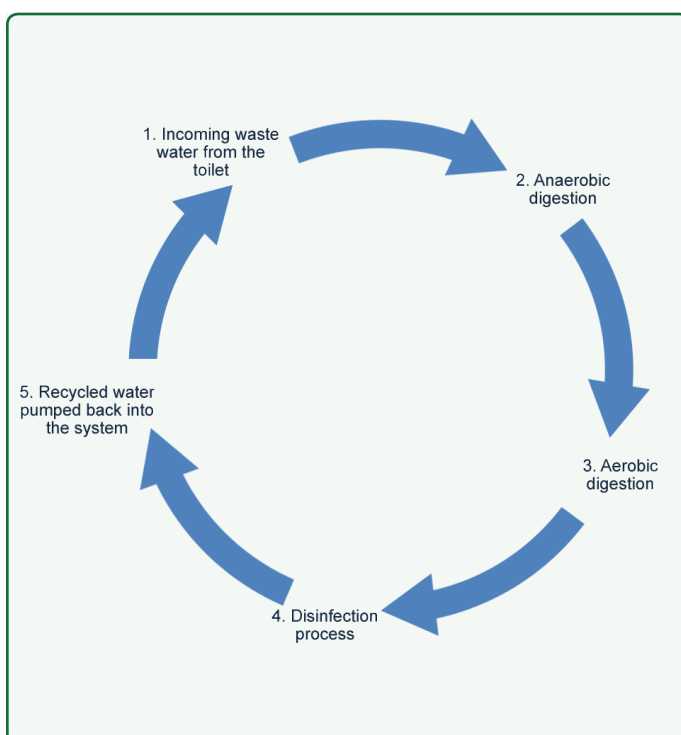


The biomite waste water recycling system is proven to be an effective strategy responding to drought and water crisis at Gauteng Provincial Government facilities. The waste water recycling facility has responded to reducing water consumption by recycling waste water and re-using it for flushing instead of using fresh municipal water.

The technology is easy to maintain. It ensures that the learners have access to adequate and dignified sanitary services in the school. The learners are guaranteed to remain at school attending all the lessons without any inconveniences likely caused by water scarcities in the ablution blocks. The system is an effective technology that can save water in the facility, save cost and provides adequate sanitation. Using recycled water to flush the toilet conserves energy. Fresh water can therefore be saved for other more useful purposes.

- About 50% of the water consumed by the school is used for flushing toilets. When the technology is installed, monthly saving of 50% would be achieved on a monthly water bill. Introduction of the technology in schools will not only have a positive impact on water availability, but will have the additional benefit of budgetary expenditure reduction for both water and sewerage bills. The technology has reduced consumption of water and hence reduced water bills.

The service provider in this project is Ebukhosini Properties and during construction phase about ten local labourers were hired. With the raw materials and equipment being locally produced, the project is to a large extent a pivot of local manufacturing, local labour, local economic empowerment and surely a big saving on water.



## 30-Day payment project update and other finance matters

By Philemon Motshwaedi

1. In the month of May 2018 alone, the Department of Infrastructure Development (DID) has managed to pay 60% of all received invoices within 15 days; and has also paid the remaining 40% within 30 days of May as well.

2. As part of the ongoing innovative interventions, DID has introduced an Internal GRV system and the rejection of invoices that are older than 7 days. If the date on the invoice is over 7 days, finance will not process it and will request a new invoice; unless if the service provider has forwarded it in time and it was handled by other officials within the department who delayed forwarding it. However, this excuse will not hold because all officials must inform service providers to send invoices directly to finance, and not to them.

3. We have also migrated from manual processing of payment to Purchase-Order based methods which also encompass payment automation, among others.

4. Another significant developments around prudent management of budget and finances in the department, **is the ring-fencing of all budgets related to GPG office accommodation.** This is to ensure that there is adequate money to defray (pay) rental obligations on monthly basis.

5. The department has engaged client departments to do tranche payments on construction and maintenance activities in ongoing projects. The intention is to ensure that government does as much as possible to avoid payment delays to service providers, especially Small Medium and Micro Enterprises (SMME's)

doing business with the Gauteng Provincial Government.

6. In terms of the MEC's 30-day payment queries coming through the email to the MEC. The Finance Branch is continuing with the good work of attending to them earnestly. Only 2% of the email queries remains unresolved and carried forward into June 2018. This is due to important supporting documents missing and being followed up on the unresolved emails.

Description	Number	%	Amount	%
Number of open/outstanding queries	32	9%	3 915 268.59	2%
Number of queries resolved	328	91%	231 972 857.67	98%
Total number of queries lodged/amount	360	100%	235 888 126.26	100%



### Aging Analysis of Open Queries

Description	Total	0-30 Days	31-60 Days	61-90 Days	91+ Days
Total amount of open queries as at 15/06/2018	3 950 691.58	486 206.68	35 422.99		3 429 061.91
Number of open queries as at 15/06/2018	33	1	1		31
% by amount of outstanding queries	100%	12%	1%	0%	87%

UNRESOLVED					RESOLVED			
Week Ending	Number	%	Amount	%	Number	%	Amount	%
2018/06/01	33	9%	4 810 149.43	2%	321	91%	231 851 892.70	98%
2018/06/15	32	9%	3 915 268.59	2%	328	91%	231 972 857.67	98%

## GDID 30-DAYS EMAIL PAYMENT PROJECT

Drop us an email @  
[MECDID.30dayspayment@gauteng.gov.com](mailto:MECDID.30dayspayment@gauteng.gov.com)  
to ensure payment. If you have not been paid  
in 30 days, drop us an email.

## INFRASTRUCTURE — NEWS —

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# Infrastructure Update: the pulse of Engineering and Construction



Compiled by Alfred Nhlapo



## Enabling Infrastructure key to 54-Country Africa Free Trade Agreement

The realisation of the strategic goals of the recently signed ground-breaking African Continental Free Trade Agreement which has already been assented by forty four (44) out of the fifty four (54) African Union member states will rely heavily on the development of integrated infrastructure within and between countries. In the same vein, socioeconomic infrastructure in regards to the 26City Cape-to-Cairo Programme that was initiated a few years ago is also brought to bear. The developments indicate the centrality of infrastructure in the economic growth and development of the economy and its people. - **Editorial Comment**

## FNB building Confidence Index in Summary

"The **FNB/BER Building Confidence Index** reveals the percentage of respondents that are satisfied with prevailing business conditions in six sectors, namely architects, quantity surveyors, main contractors, sub-contractors (plumbers, electricians, carpenters and shop fitters), manufacturers of building materials (cement, bricks and glass) and retailers of building material and hardware.

The index can vary between zero (indicating an extreme lack of confidence) and 100 (indicating extreme confidence).

In contrast to the RMB/BER BCI, which includes only main contractors, the **FNB/BER Building Confidence Index covers the whole pipeline**: from planning (represented by the architects and quantity surveyors), renovations, additions, owner builders, the informal sector (represented by building material and hardware retailers) and production (manufacturers of building materials) to the actual erection of buildings by main contractors and sub-contractors".

Source: <https://www.ber.ac.za/BER%20Documents/FNB-Building-Confidence-Index/?doctypeid=1079>



**Masabatha Mutlaneng**  
DDG: Corporate Services

**I/We pledge to take a firm stand against burning, vandalism, littering and any form of destruction of public property.**

**I/We further pledge to care for, preserve and protect public property as the common heritage of all the people.**