



12TH Conference on Asphalt Pavements for southern Africa

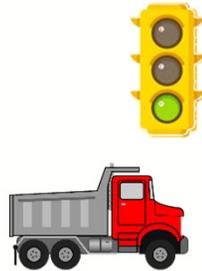
13 -16 October 2019 | Sun City | South Africa

**Digital Technologies –
The Answer To All Our Challenges:**

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INTRODUCTION TO SMART TECHNOLOGY



ASPHALT TRANSPORTED TO ROAD FOR PAVING

INTRODUCTION TO SMART TECHNOLOGY



INTRODUCTION TO SMART TECHNOLOGY



INTRODUCTION



Digital technologies are often viewed as the answer to all challenges facing the construction industry. Is this so? What are the strengths, weaknesses, opportunities and threats for the successful and sustainable implementation of digital technologies?

The aim is for participants to understand that while the implementation of digital technologies is hugely beneficial, it is also challenging, complicated, time-consuming and requires appropriate strategies to make it successful and sustainable. This will be done in the form of a mini-SWOT analysis.

CONTEXTUALISING THE ENVIRONMENT



Question: *What are the strengths of using digital technologies?*

Question: *What are the opportunities for using digital technologies in construction?*

Question: *What do you think the potential threats are if we were to continue in a business as usual, rather traditional manner and not adopt new technologies at all?*

Question: *Given the South African context, which barriers must be overcome for the successful and sustainable implementation of digital technologies?*

CONTEXTUALISING THE ENVIRONMENT

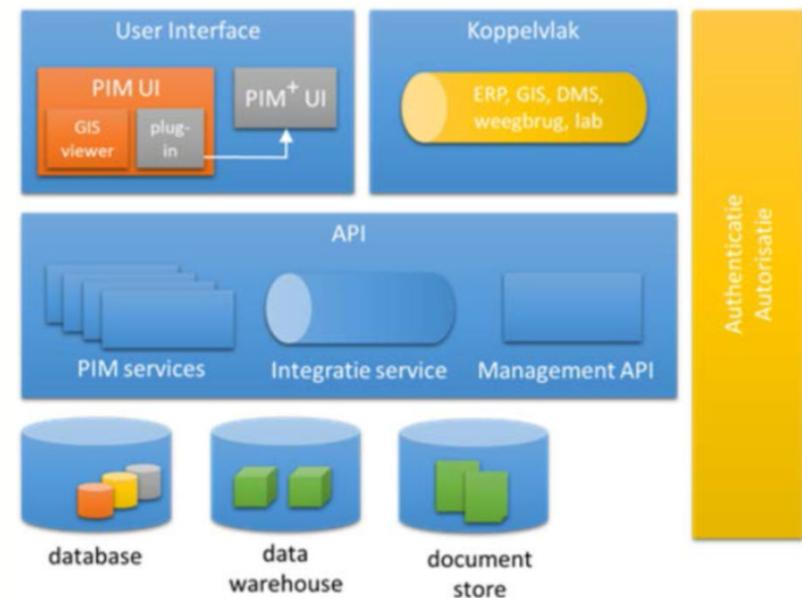


Question: *What role could public clients such as road agencies, provincial authorities and municipalities play, in the implementation of digital technologies? What role could consulting engineers and contractors play?*

Question: *How could public clients (asset managers) benefit from the use of digital technologies?*

OPPORTUNITIES OPENING UP FOR THE ROAD CONSTRUCTION INDUSTRY

- Make explicit operational behaviour
- Method-based operational strategies
- Improved decision-making
- Better quality
- Data, data and more data
- Big data and data analytics
- Simulations
- GIS
- BIM
- Improved asset management strategies



OUTPUTS OF THE WORKSHOP



- **Understand what is meant by SMART technologies and what they can and cannot do.**
 - **Understand that technologies are tools. The issue is that technologies enable you to address a challenge that we have in construction of roads i.e. VARIABILITY and in many cases, PREMATURE FAILURE of our road network.**
 - **Understand the benefits and shortcomings of digital technologies.**
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OUTPUTS OF THE WORKSHOP



- **Understand the need for drivers of change, the need for changing roles and appropriate implementation strategies.**
 - **Understand the need for an environment where innovation is encouraged and cherished.**
 - **Understand that low-bid environments are barriers...punitive environments are barriers!**
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CONCLUSION AND RECOMMENDATIONS



- **Formalisation of a digital roadmap.**
- **Formation of a Task Group to take it forward at the RPF.**