

LED WALKWAY WEBINAR

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PRESENTATION STRUCTURE

- ❑ Introduction and Context
- ❑ The TIH LED Walkway Project
- ❑ Future Perspective
- ❑ Research
- ❑ International Collaboration
- ❑ Conclusion

BACKGROUND AND CONTEXT

LED Walkway at The Innovation Hub in perspective

Based on the Berlin LED Catwalk, Department of Minerals and Energy(DMRE) and The Innovation Hub Management Company(TIHMC)established the LED Walkway project in Lynnwood, Pretoria ,at The Innovation Hub Precinct, to convert streetlights to sustainable energy efficient solutions

- In 2017, DMRE and TIHMC established the LED Walkway project to:
 - Alleviate high expenditure on streetlights and convert to sustainable energy efficient solutions
 - To showcase the latest lighting technologies and tele management systems,
 - Demonstrate products and raise awareness on energy efficient street lighting technologies
- **Success stories**
- Berlin in collaboration with the University of Berlin and other role players
- Yerevan in Armenia.

DMRE AND TIHMC MOU

- ❑ **Signed in Nov 2017 where the parties agreed :**
 - Provide an exhibition platform for South African Municipalities
 - Collaborate in attracting suitable LED lighting investors to set-up operations within The Innovation Hub precinct or elsewhere adjacent to the Science and Technology Park

- ❑ **DMRE will deliver the following:**
 - Engagement of technology suppliers and developers in the energy sector to assist Government in adopting specific technologies
 - Engagement of technology suppliers to voluntarily offer products (hardware) in support of energy programmes
 - Hand over of such technology to TIH
 - Provide support for the overall management and co-ordination of the project
 - Support the mobilization of Technology Exhibitors and their in-kind contribution
 - Close coordination with funders for the implementation of the activities listed above

DMRE AND TIHMC MOU

❑ **TIH will deliver the following:**

- Provision of land or space for the implementation of the project
- Facilitate the creation of a training and other innovation programmes with relevant tertiary institutions and other role players
- Support DMRE with creating an exhibition area for project and making the site accessible to visitors
- Utilize any funds directed to TIH by DMRE to ensure the success of the project as intended in the partnership agreement.

DMRE AND TIHMC MOU

- ❑ **In addition to the DMRE and TIHMC MOU, the following strategic objectives need to be realized to maximize the development impact of this project in line with the Berlin LED Catwalk project successes:**
 - **Twining local universities(UP,TUT etc) with Berlin University on LED technology research**
 - Linking UP ,TUT and CSIR including other universities and research councils in South Africa with LED research and development to strengthen LED technology standards in South Africa.
 - Linking South Africa companies and SMMEs with German companies
 - Mobilizing both local and German companies to locate R& D and advanced manufacturing within TIH Precinct in the Tshwane Research and Development Commercial Node.
 - Creating an innovation ecosystem within the City of Tshwane Research and Development Commercial Node to anchor an innovation corridor based on LED technologies and advanced manufacturing
 - Ultimately converting the entire City of Tshwane Research and Development Commercial Node as an LED Demonstration and Research Site

WHY AN ENERGY EFFICIENT STREET LIGHTING DEMONSTRATION PROJECT IN SOUTH AFRICA?



- The DMRE makes funding for energy efficiency measures available to municipalities through the EEDSM programme
- One third of municipal energy expenditure is for street lighting = good opportunity
- LED technologies can achieve 60% to 70% energy cost savings
- LED luminaires are unknown and cost more than other options
- Demonstrating the technologies would reduce reluctance to adopt this technology and install

THE INSPIRATION: THE BERLIN LED WALKWAY PROJECT

- A South African delegation on a study tour funded by GIZ SAGEN visited the LED walkway project in Berlin and wanted to replicate it in SA
- The “LED Walkway Berlin” has 77 masts and 184 lamps lining a 1.5 km street
- It is a constant exhibition of innovative LED street lighting technology solutions. This LED Walkway is a unique “*Outdoor Showroom*” that promotes and demonstrates the advantages of LED lighting solutions in a real-life situation
- It also serves as a research facility: The Technical University of Berlin has a team of 20 research associates and 2 professors working on the LED Walkway Berlin
- Time-frames: Technical preparation phase (from 2013), Opened to the public (March 2015), Scientific operating and evaluation phase **(2014 – 2017)**

IMPRESSIONS FROM LED LAUFSTEG (WALKWAY) BERLIN



LED LAUFSTEG BERLIN – IMPRESSIONS AT NIGHT



GUIDED TOUR AT THE LONG NIGHT OF SCIENCES



THE INNOVATION HUB LED WALKWAY: PROJECT INFORMATION

Aim

- To have the first outdoor exhibition of LED street lighting on the African continent
- To demonstrate different lighting technologies and tele-management systems
- To expand the exhibition in different phases

Partners

South African Public Partners:

- Department of Minerals and Energy,
- The Innovation Hub Management Company(SOC)LTD
- Gauteng Provincial Government

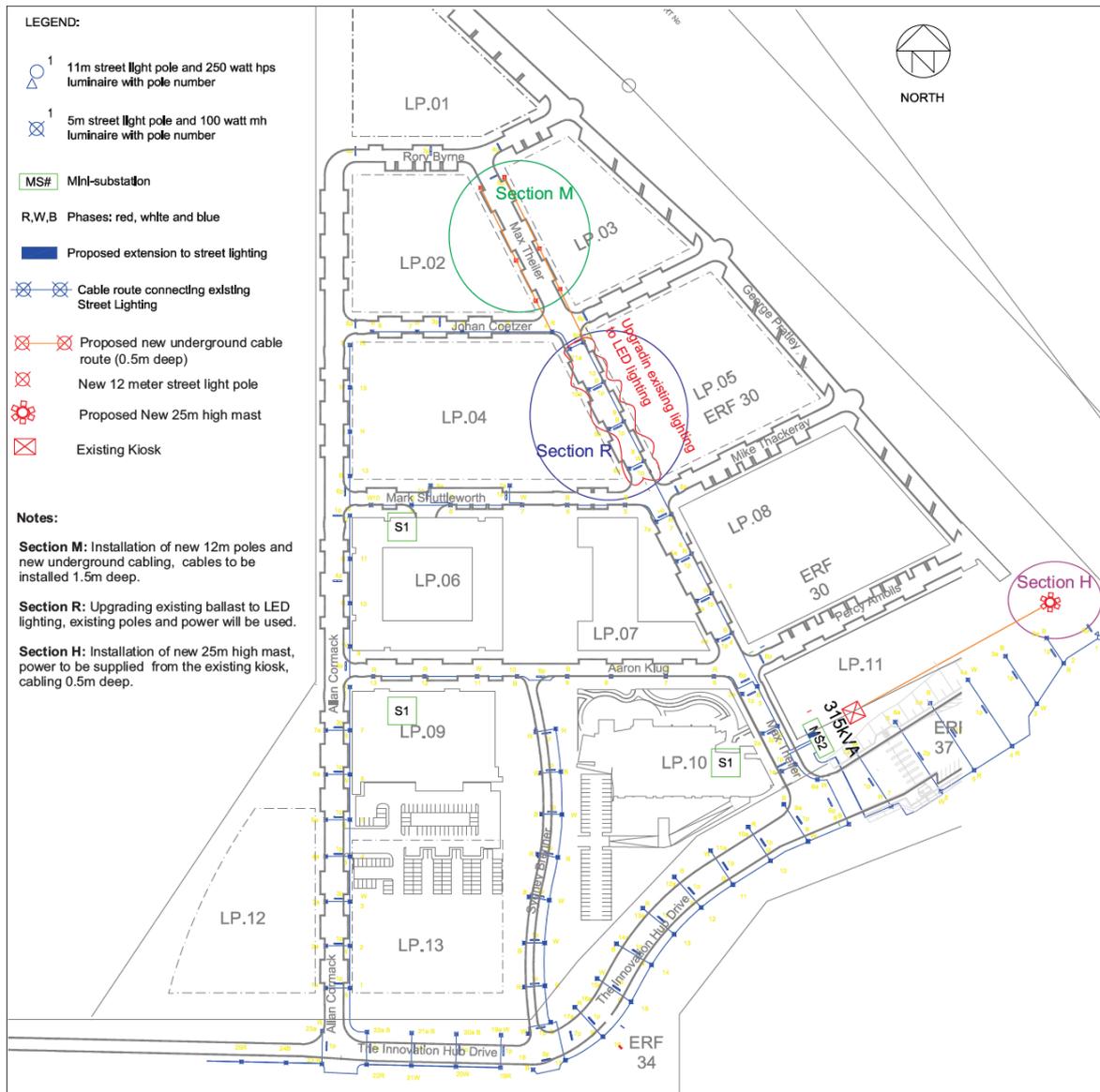
International Partners:

- South African-German Energy Programme(SAGEN) implemented by Deutsche Gesellschaft fur Internationale Zusammenarbeit GmbH (GIZ).
- Swiss State Secretariat for Economic Affairs (SECO).
- Technology suppliers

TIH LED WALKWAY SITE PLAN



THE TIH LED WALKWAY: PILOT PHASE CONCEPT



PROJECT IMPLEMENTATION STATUS

- ❑ Project Pilot implemented
- ❑ Technology Exhibitors: Beka Schreder and Envirolight
- ❑ 10 street light masts/ poles and 27 lights including 1 high mast light
- ❑ Phase 1- Sections:
 - Section: H, is at the corner of Monty Preatly and Percy Amolls Streets and the installation is one 25meters high mast, with a scissor pole for less maintenance and added security. Its LED lights are 150W up to a maximum of 400W, for demonstrating different lumens for high mast lights.
 - Section: M, is at Max Theiler and Roy Burn Streets and consist of 3 poles each side(12meters poles).LED lights are 30W to a maximum of 160W.Each pole has three lights, this is suitable to demonstrate common municipal lighting
 - Section: R, is at Max Theiller and Mark Shuttleworth Streets. Its three poles each with LED lights 40W, suitable for common residential street lighting

IMPRESSIONS: THE PILOT PHASE (SECTION M)



PROJECT IMPLEMENTATION STATUS

- ❑ Phase 1 of the project only attracted two technology providers as technology exhibitors.
- ❑ Strategically the partners require more technologies on site to show case
- ❑ Phase 2 is therefore under way to implement over 100 poles and some 300 streetlights to retrofit the whole park
- ❑ Approx. 3km of streetlight within The Innovation Hub precinct
- ❑ This is almost double the size of the Berlin Catwalk Project in Germany
- ❑ City of Tshwane will also join DMRE and TIHMC in the Phase 2 project

FUTURE PERSPECTIVE



Partners honouring the MOU as dependable and capable partners, basis of successful strategic partnering (“*No one wants to partner with the ass but the racehorse!*”)

Industry, government, universities, research council's collaboration and partnering to advance the competitiveness of LED technologies in South Africa

Ultimately, retrofit the entire “*Innovation Corridor*” within the City of Tshwane Research and Development Commercial Node as the largest demonstration and research site in the world!!!

RESEARCH

□ 3-STEP PROCESS:

1. Conduct a Review of the State of Energy Efficiency(EE) Lighting

Research in SA. The objective of the project is to provide an overview of current EE lighting research being carried out at South African Universities, Universities of Technology and other research institutions, to identify common themes and priorities in this research, to identify possible gaps that are not being covered by current energy research, to compile a profile of the EE lighting researchers actively working in the field and to make recommendations on future energy research focal areas for South Africa. Ultimately, the information generated during the review should be used in the establishment of an EE lighting research platform.

RESEARCH

2. Once the results of the review are available, host a workshop with academia, research councils, industry and government to present the results of the research.

The workshop should agree on 3 research themes to be supported. The workshop should explore potential support, roles and responsibilities and outputs

Through collaboration with the South African Energy Partnership, organise an expert exchange, either in the form of a study tour to Germany or visiting German research experts to South Africa to explore potential international research collaboration.

3. Once resources have been secured for at least one of the priority themes, launch an EE efficient lighting research platform, hosted by the South African National Energy Development Institute (SANEDI).

- The platform meets twice per year where research results are shared, and priorities agreed. Relevant participants in the platform include Government, Industry , Academia and Research Councils.

INTERNATIONAL COLLABORATION

- ❑ Leadership and expert exchange programmes
- ❑ Twinning with universities on R&D
- ❑ Bilateral and multi lateral technical and financial support
- ❑ German and South African industry collaboration
- ❑ Trade and investment promotion between SA and Germany

CONCLUSION

- ❑ Pilot Phase operational
- ❑ Phase 2 planning, design and delivery from April 2021
- ❑ Phase 2 to covering over 100 masts and the entire TIH Precinct
- ❑ Phase 2 lead partners: DMRE, City of Tshwane and TIHMC

Thank You

Re a Leboga

Baie Dankie

Siyabonga

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