Countering the dire shortage of technical personnel in South Africa

Presenter: Tom Phillips
The challenges facing us

- An education system under severe stress
- Insufficient technically qualified personnel
- Aging experienced / qualified workforce
- Collapse of the traditional artisan training
- Municipalities under resourced
- Budget underspending
- Attitude – instant gratification
What can be done

➢ Secondary schools
  ➢ Compulsory Maths and Science
  ➢ Focus on tertiary education preparedness

➢ SETAs & Other Tertiary Institutions
  ➢ SETAs to deliver on their mandates
  ➢ Incentives for companies to undertake vocational and artisanal training

➢ Caveat: Delays coming on line
To the rescue

➢ A solution that offers immediate relief

➢ Scalable software tools that can be tailored to your requirements.

➢ Variable implementation options to cater for you budget.

➢ Training & support is available both locally and internationally
Packages Available

- DigSilent
- etap
- Inspired Interfaces
- Power Analytics
- SKM
- CYME
- Schneider Electric
High level functionality

- Electrical transmission and distribution network modeling
- Simulation and analysis of HV, MV and LV radial and meshed networks
- Full diversity algorithms
- Load profile analysis
- Fault level calculations
- Motor starting, protection modeling
- Load flow simulations
- Network harmonic analysis
Virtual Engineer

- Does the hard repetitive calculations
- Ability to give a macro and micro view
- Network visualisation (GIS)
- Enables “what if” analysis
- Facilitates network optimisation
- Generation of bills of quantities
- Detailed project costing at the push of a button.
Examples from the real world

- Uganda distribution concessionaire
- Sugar mill fault current analysis
- Mining slurry mill motor starting challenge
But wait, there’s more!

- Asset management
- Maintenance database (with GPS location)
- Bill of materials / Costed BOMs
- Extensions made easy
- Master plan traceability
- Assists in Workflow management
A picture is worth a thousand words

High density housing example
A picture is worth a thousand words

Distribution network shown on GIS
In the final analysis

The availability of exceedingly powerful analysis and design packages, when used expeditiously, more than compensate for the critical shortage in technical resources in the electrical transmission and distribution planning and design departments.
THANK YOU

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