- Happy birthday, Madiba, for your 90th birthday, wish you many more years in life

Grinpal Success Story in Alexandra

Grinpal = Joint venture between Saab Grintek & Palace Engineering Services

Background on STS prepaid meters - Alexandra

(Standard Transfer Specification)

- STS is an open standard for electricity prepayment systems

- Application is licensed through the STS Association

- Transfer of electricity is token-based

- 1990 – Eskom & Government embarked on electrification programme in rural areas & Black townships that did not have electricity

- Alexandra township had STS prepaid meters installed prior to Grinpal's intervention

Benefits of Prepaid

- Buy before consuming
- No stealing of one's electricity
- Physical meter reading is unnecessary
- No monthly billings
- Less time spent on defaulting customers i.t.o. cutoffs
- Non-dispenser specific tokens, once created, can be used from a credit dispenser unit to <u>any</u> electricity dispenser

Challenges with Prepaid

- **Easily by-passed**
- **Not tamper-proof technology**
- **Lack of two-way communication with server**
- **No time-of-use can be implemented for residential customers**
- **No automatic conversion – pre/post paid**
- **Tokens – either physical damage/ lost/ old, worn out meter numbers or key-paid malfunctioning, etc**
- **Non-technical losses were on the rise**
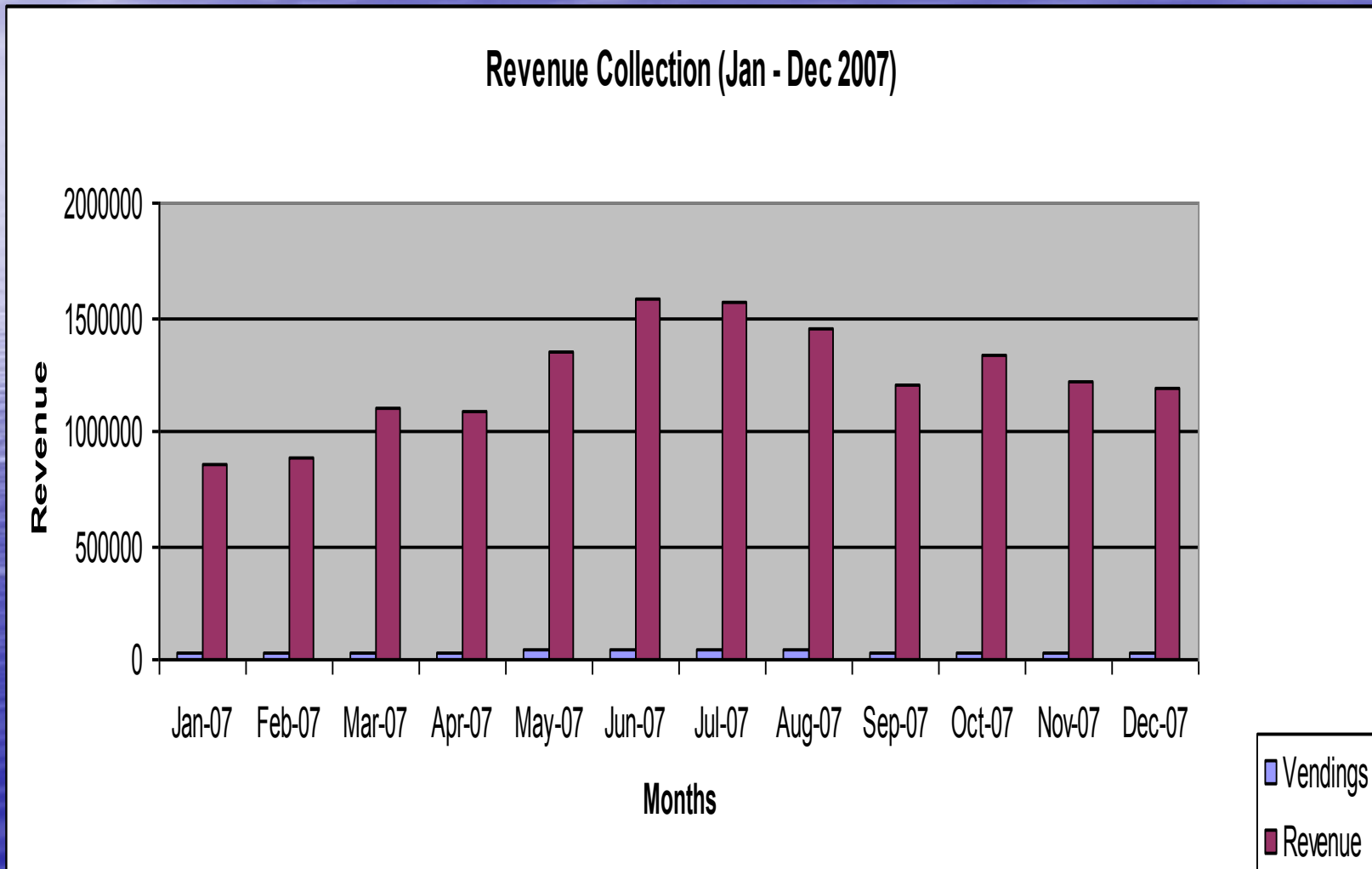
Grinpal's Intervention

- **City Power procured smart metering from Grinpal**
- **Objective: improve revenue & customer service, & detect tamper/bypass**
- **Pilot project launched in 2002**
- **JHB City Power – R250k p/m**
- **Smart meters installed – 20k (areas of tampering/bypassing & no electricity)**
- **Presently collects monthly from R1,6m only on 20k households**
- **48k smart meters still need to be connected**

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THE ALEX EXPERIANCE

2007 REVENUE COLLECTIONS

Revenue Collection (Jan - Dec 2007)

Minister' Perspective

Buyelwa Sonjica,
South Africa's minister
of Minerals and Energy

Pretoria, South Africa --- (METERING.COM) --- January 28, 2008 - **Smart metering** for residential customers is one of a number of interventions that have been proposed by the South African government as part of a National Electricity Emergency Program to alleviate the country's growing energy crisis.

Benefits will be reaped in the medium to long term, says the government. However, the program will need extensive human resources, but provides an opportunity **for training and job creation**.

Other measures in the program for implementation in the short term, i.e. within the next six months, include power rationing, further rollout of compact fluorescent light fittings and solar water heaters, and initiatives to switch to liquid petroleum gas. In the medium term measures proposed include moving the tariff regime closer to a cost reflective basis, while in the longer term there will

Metering Core Deliverables (1)

- ## Revenue Management
  - income improvement, cost reduction & debt recovery
  - Integrated Geyser load switch option in the display unit for load management saves on Power Bill
  - Time of use tariff (reduces transaction costs)

- ## Customer Services
  - reduction of customer complaints
  - conversion of AMR (billings) or prepaid on one meter
  - accurate dispensing of fbe (50kwh),
  - 24 hour available vending system
  - no manual credit tokens or keypaid entries or 22–digit number

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Metering Core Deliverables (2)

- **Operational Efficiencies**
  - Automatic implementation of different credit policies
  - Diagnostic feedback per customer
  - Remote-disconnect and pay out or transfer of credit balance when consumer moves
  - Centralised database with full traceability on all transactions on the whole system on a real-time basis including vending, usage of water, usage of electricity, credit status per customer

- **Demand Response**
  - Muns & utilities can shed load easily (individual, group or everybody) – built into the system
  - Can switch off appliances such as air-conditioning and geysers (Individual, group or everybody) - optional load switches

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Features of ISMS

- Powerful communications tool
- Handles both single & three phase customers & tou metering
- Handles amr or ppm and any tariff structure including fbe
- Can be upgraded to bulk metering for industrial customers
- Can do load management
- Full two way communications end to end to allow daily testing of complete system (split metering)
- Full implementation of credit policy applicable to the specific mun, including automated disconnect/reconnect as required by policy and manual overrides
- Alpha-numeric display per customer that can be used for messages (individual, group or all) to customers
- High resistance to tampering including alarms at central and in the immediate vicinity of the breach, and split meter and display configuration

WHAT DO YOU GET ?
GRINPAL PROMISE

- Revenue protection tool
- Cost-reduction capability
- Streamline one's cash flow
- Load management purpose
- Tamper-proof capability
- Audit trail
- Less infrastructure requirement
- Efficient & effective communication tool

END

KEY PLAYERS

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