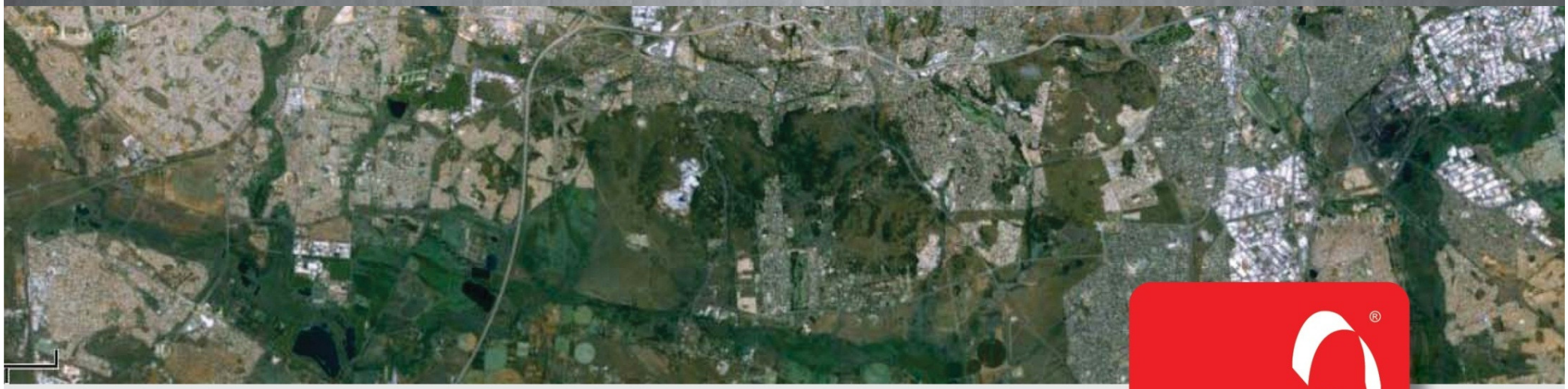


GSMA-IFC Green Power for Mobile Working Group

Nigeria and Ghana specific

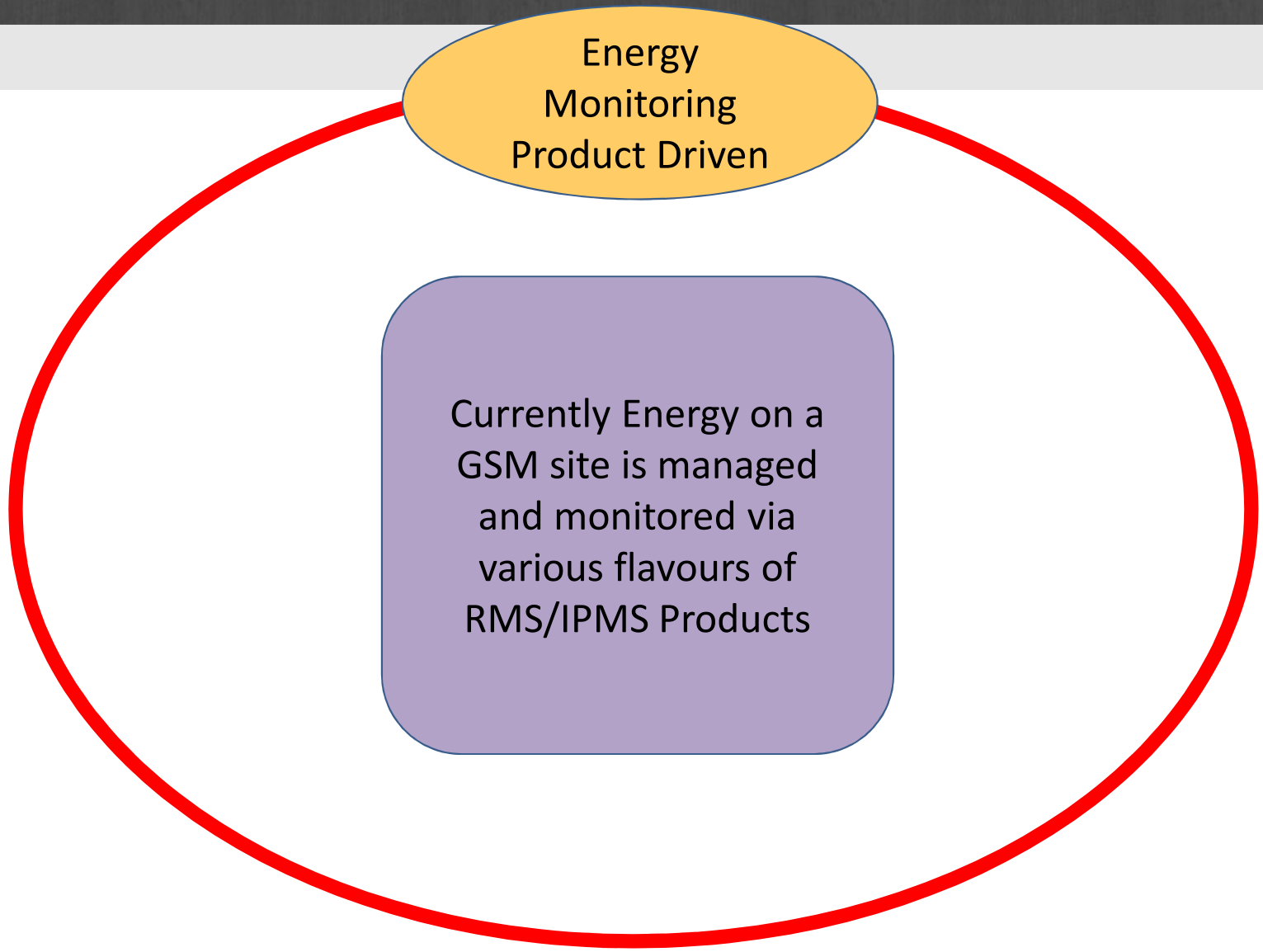
29-30 January 2014, Lagos, Nigeria



AGENDA

"Energy Monitoring as a Service" on
the road towards ESCO

Roadmap to an ESCO Model



"You can rather have a reliable, fit for purpose, monitoring product with excellent service and support on my sites than a 'best-of-breed' product with unreliable service and local presence"

Energy Monitoring Products

Information /Data flowing from Energy Monitoring Solution:

- Consumption and Demand in real time and historical trends
- Risks associated to theft, vandalism, illegal access and external factors
- Current / Actual Energy Service Quality from Grid and other Sources
- Energy optimization and saving to ensure lowest cost of operation

Current Challenges:

- Insufficient skills availability- In-Country
- Poor or no support on the product – In-Country
- Spares availability – In-Country
- Interpreting monitoring data of your Energy Sources to be able to managed available energy efficiently and more cost effective
- Getting true OPEX saving out of your Energy Monitoring product
- Ineffective interpretation of Alarms leading to higher downtime and ineffective Preventative and Corrective Maintenance

Energy Monitoring Products

Current Challenges cont….

TCO

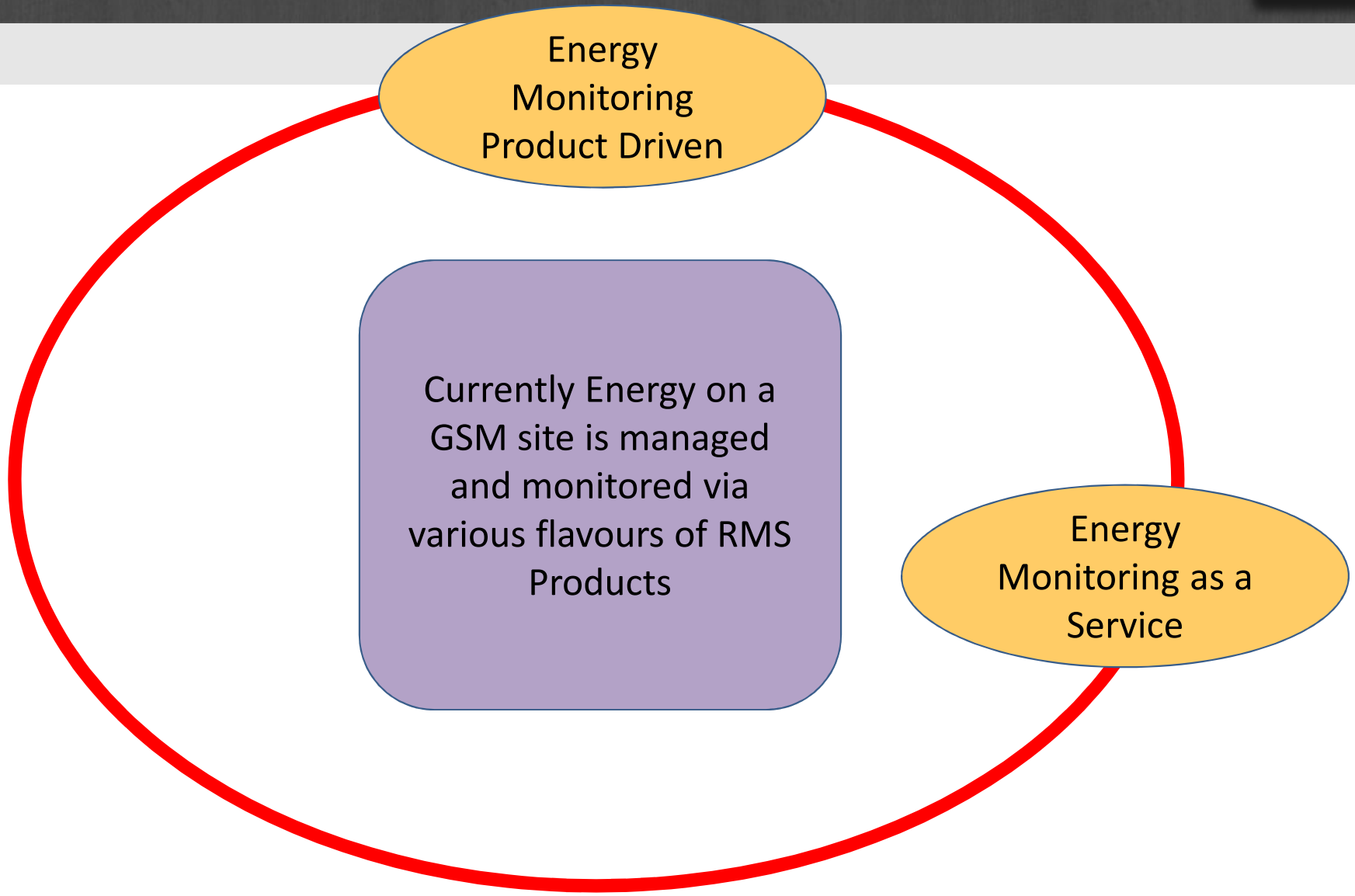
- Multiple Monitoring Solutions within 1 Network in Country / multiple countries
  - RMS (Inala/AIO/Qowisio/Kentrox/Telmysis…) Replace or Integrate ?
  - IPMS and Hybrids
  - All other Energy sources
- Combining of all equipment monitoring data
- Combining of all Alarm Data – multi-screen NOC
  - Challenges with Workforce mobilisation
- Combining Equipment Performance Data
- 90% plus RMS solutions has been deployed for a single tenant
  - Needs additional equipment / upgrade to handle COLO
- Up to date correct Site Asset detail
  - Physical Condition of Equipment on Site
  - Site energy configuration

Energy Monitoring Products

Lessons Learnt …….

- Deployment of a RMS without proper Services contract with the supplier linked to SLA is not recommended
  - RMS supplier must have “Skin in the Game” and have in-country presence to ensure that MNO/TCO gets benefits and Energy savings
  - TZ – 165 Sites – Diesel Pilfering reduced from 33% to 8 % in 2 months – now 3%
  - TZ – 136 non-grid Hybrid sites – 26.5% reduced GENSET Hours to 55% Average
- RMS supplier faces a lot of external challenges to proof that technology work and to ensure that value is derived from the CAPEX investment
  - Batteries Stolen
  - Sabotage of Fuel Probe
  - GENSET in Manual Mode
  - SIM Card theft , Malicious Damage etc.
- SIMS knowledge and skills to maintain a specific RMS Solution not sufficient
- RMS Supplier need to establish a close Business relationship sharing the risks or a formal “back-to-back” SLA with SIMS or have a

Roadmap to an ESCO Model



M-P Infrastructure Ltd
...Transforming Africa For A Greater Future

Strategic Partners



INALA West Africa Partnership – Value Proposition

WHY INALA ?

"The technology pedigree Inala brings to this partnership will further strengthen MP Infrastructure's service delivery to Telcos and Tower Companies in the West African Region" – ***Clem Nwogbo , CEO MP Infrastructure***

MP Infrastructure and Inala Combined Solution - VALUE Proposition

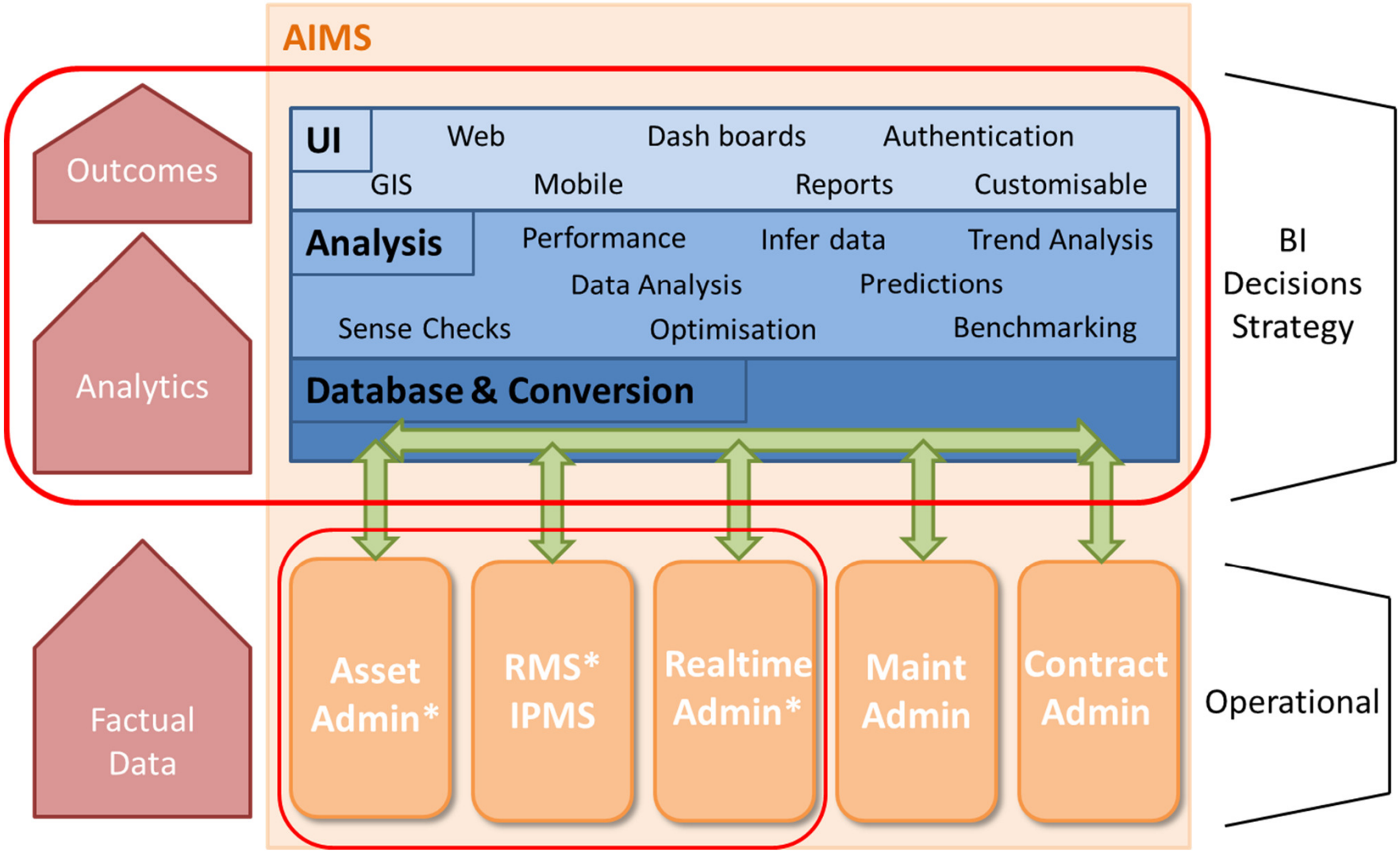
- **MP Infrastructures strong West Africa Regional Footprint**
- **Better Service Delivery to Customers**
- **Local Skills Availability**
- **Local Deployment and Support Partner**
- **Local Training Facilities**
- **Warehousing of Regional Spares and Repair Facilities**
- **Local subject Matter Experts with Backing from Product Owner**
- **Local Expertise to interpret Infrastructure "Data" Into "Infrastructure Intelligence"**





Energy Monitoring as a Service

Advanced Asset Infrastructure Management and Intelligence Solution



Energy Monitoring as a Service

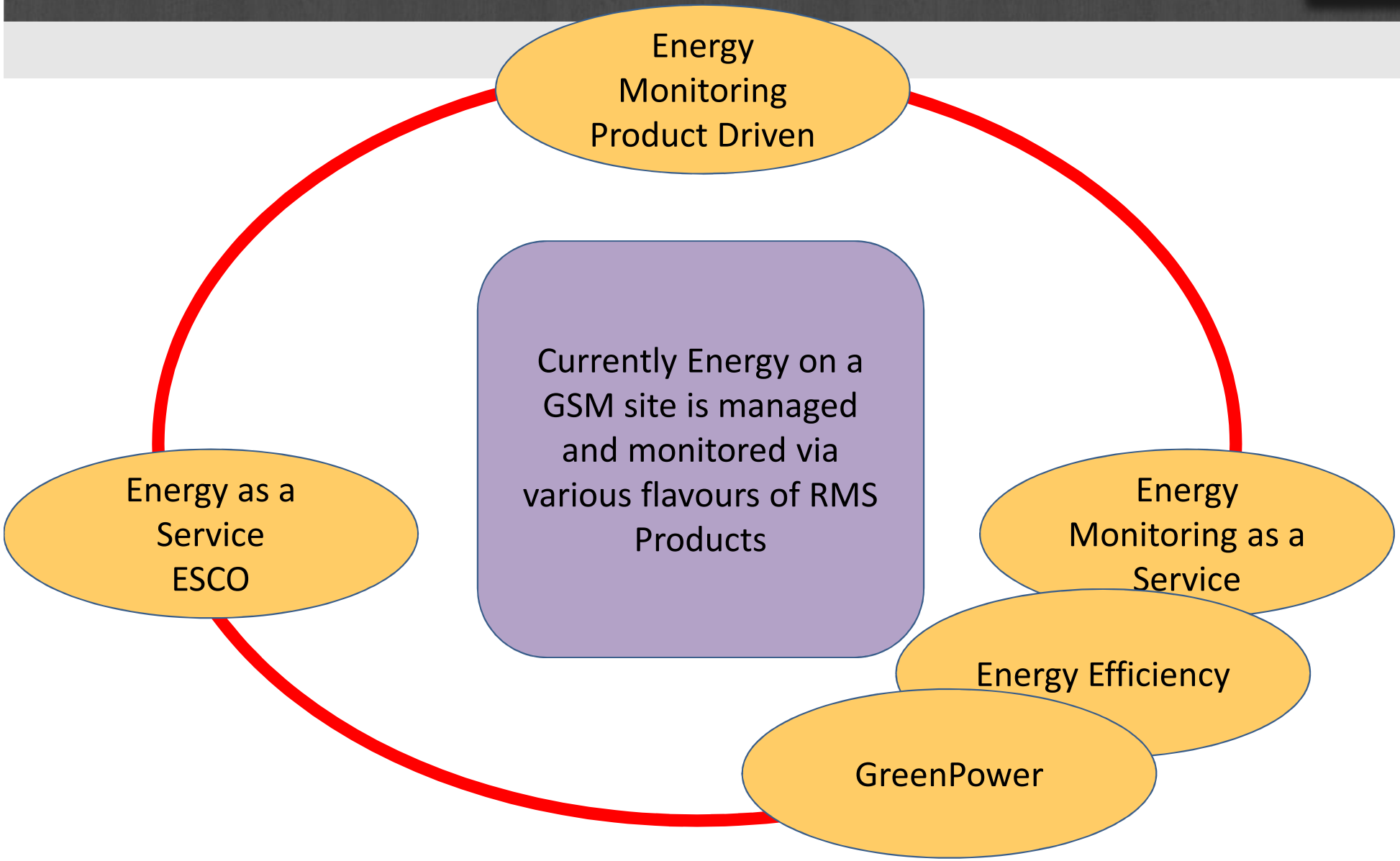
Advantages

- **MAIN OBJECTIVE :** Visibility of Energy Sources and ability to Managed and Optimise to Achieve Energy Efficiency – **OPEX Savings**
- Strong partnership between vendor and client
  - 3 to 5 year service agreements based on performance
  - Various CAPEX/OPEX models as to client preference
  - On-going improvements on product deployed and services
  - Vendor responsible for product configuration management
  - "Pay for the value that you receive" / "Skin in the Game"
- SLA based – better Service Levels **(SLA)**
  - Skills availability
  - Spares availability
- Standardised Energy Management / Simplification
  - Across multiple Countries / TCO OPCOs
  - Multiple Manufacturer's Equipment
  - Performance / Efficiency comparison between multiple Vendor's Equipment

Energy Monitoring as a Service Advantages cont.

- Effective Energy Management on Multiple Tenant Sites - **(CONSUMPTION)**
  - Tracking and Reconciliation of Energy In and Energy Out/Usage
  - Reconciliation of Grid Power Consumed vs Power Company Invoices
  - AC / DC consumption per Tenant
- More efficiency on Corrective Maintenance on Energy Sources - **(RISKS)**
  - Pre-Analysis of Root Cause of Alarms by NOC before deployment of corrective maintenance team(s)
  - Pre-dictive maintenance to reduce service disrupting energy problems through trends and analysis
  - Performance monitoring of Maintenance Teams / Contractors
- More Efficient Fuel Management
  - Reduction of Diesel pilfering
  - Correlation between Actual Diesel supplied and Supplier's Invoice quantities
  - Fuel management Independent from Diesel Suppliers and Maintenance Teams / Contractors

Roadmap to an ESCO Model



ESCO offering within TELCO Industry

- Energy Monitoring as a Service will result in:
  - Energy Efficiency
  - Understanding of Consumption
  - Better Understanding of Risks involved
  - SLA parameters as a baseline for Energy as a Service

- Having a better understanding and through the intelligent analysis and presentation of factual data on energy sources allows the ability to inform for immediate operational and strategic decision making into the ESCO Model

- Energy as a Service (ESCO) or kW/H models are not the same
  - ESCO's service many commercial clients not only just TELCO
    - Need an Anchor Tenant that is not a TELCO
  - kW/h models are predominately MNO/TCO and one supplier focused.

Alternative Energy Sources Available in an ESCO Model

- Should your decision be to engage with an ESCO or consider becoming and ESCO the following Alternative energy sources should be considered:
  - Large kW gas fired turbines / generators
  - Fuel Cells
  - Solar arrays
  - Wind turbines, micro and small scale
  - Biomass generators
  - Micro hydro generators
  - Minigrid deployments

ESCO Model within TELCO Industry

- Final Step
  - Making the Decision to become an Energy Services Company (ESCO) or
  - Outsource your Energy Supply to an ESCO?

Q&A