



## Asset Management Services

Making your business a healthy business

# The Question

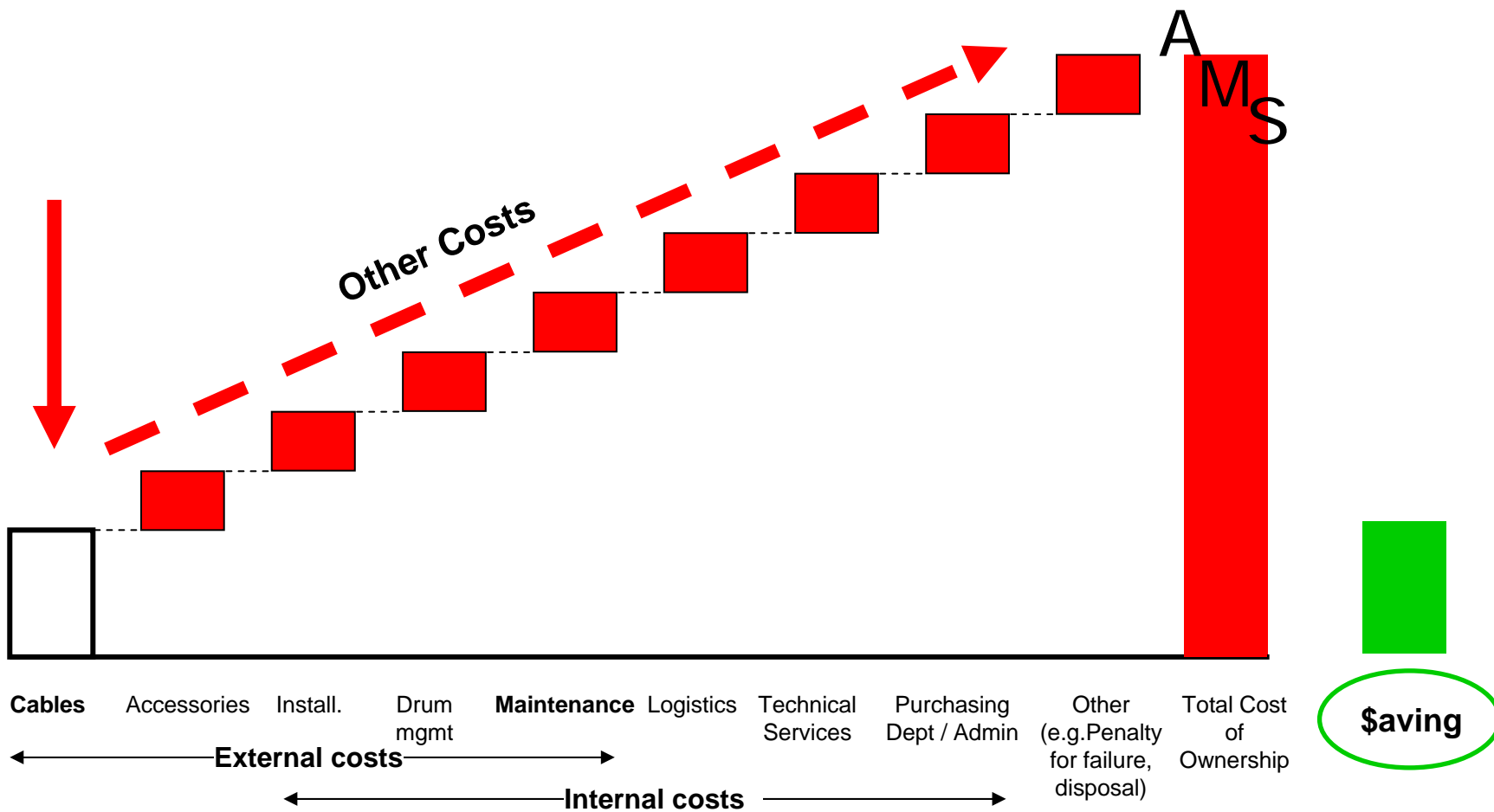
How can you spend  
less money  
for  
more performances ?

# The Answer

Asset Management  
Services  
reduces

Total Cost of Ownership!

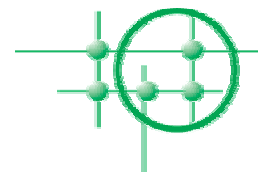
# Total Cost of Ownership



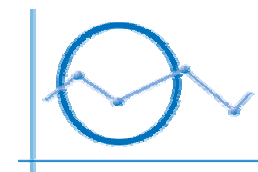
# Four Stars Services



Network Engineering



Condition Assessment



Monitoring

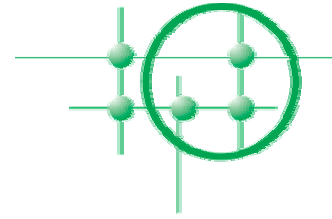


Emergency





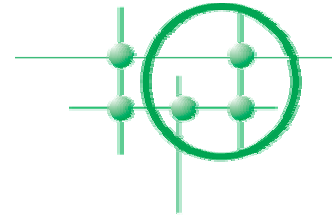
# Network Engineering



- To evaluate technical/economical challenges together with the customer;
- To minimize system cost based on reliability approach;
- To propose an overall low cost approach based on specific solutions for specific problems.



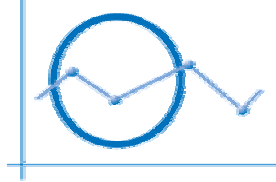
# Network Engineering



- Load / Power Flow Analysis
  - Cable system impact on existing network
- Technical Economical Assessment
  - Cable System design finalization
- Feasibility Study
  - Customized optimal solution



# Condition Assessment

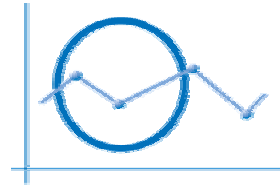


- To qualify new installation;
- To know how healthy is customer's system and to classify it depending on its conditions;
- To plan maintenance, reducing unforeseen outages costs.





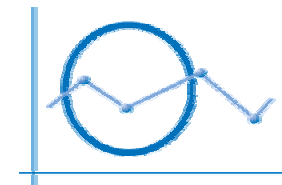
# Condition Assessment



- After-Installation Tests
- Partial Discharge and other electrical tests
- Oil analysis
- Samples Tests
- Systems inventory



# Condition Assessment Systems inventory

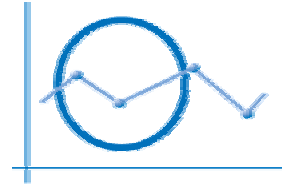


Cable links inventory can:

- Increase effectiveness maintenance planning
- Reduce intervention time in emergency



# Condition Assessment Samples Tests



Information on cable condition can be obtained testing cables ready for disposal (because of re-routing or other), with:

- Visual Inspections
- Destructive test
- Laboratory Analysis



# Monitoring



- To exploit the link at its best;
- To detect and locate weak points generation and their evolution in real-time;
- To allow link over-exploitation within safety margins.

# Monitoring



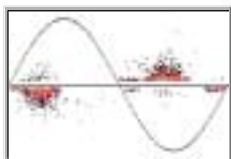
Temperature Monitoring



Load Monitoring



Water Penetration



Partial Discharge Monitoring



# Monitoring

## Temperature Monitoring



- Temperature profile and thermal load of new and existing cables;
- Cables with embedded sensors;
- New sensors in proximity of existing cable.



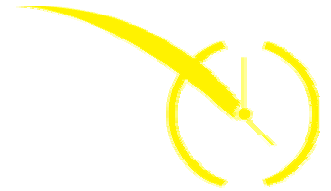
# Monitoring Water Penetration



- For AL welded sheath & wire screen;
- Embedded sensors;
- Continuous on-line high accuracy water penetration monitoring;
- No routine maintenance of cable sheath (HV Tests) necessary.



# Emergency



24h/7d emergency service with several options depending on geographic location:

- Spare parts stock
- Minimum intervention time guaranteed





Asset Management Services

**Your Network ... Our Services ... Anywhere**