GenusSoft

OROS

Optimize Reliability of Supply

Network & Plant Performance

Operational Analysis

OROS

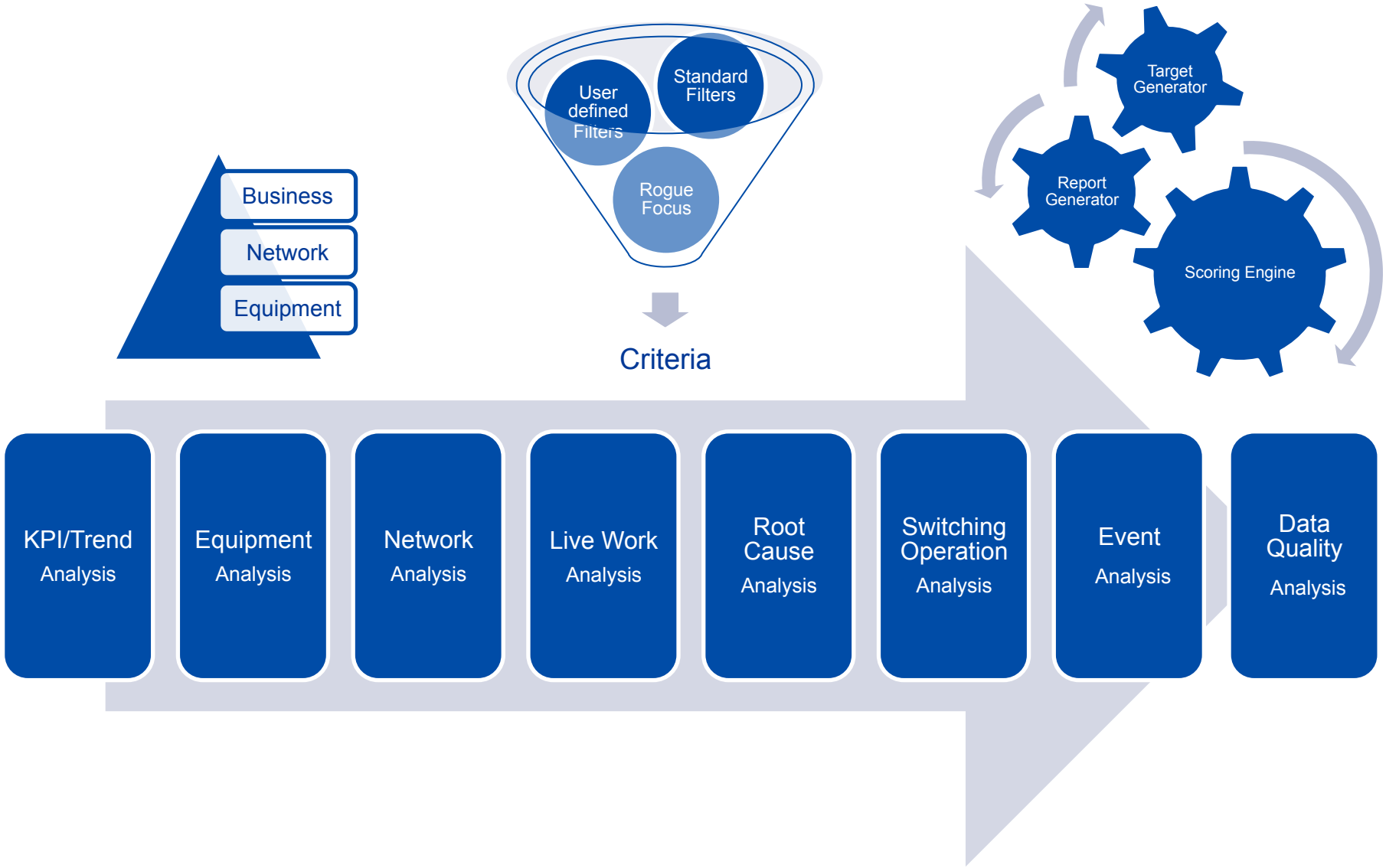
is a **knowledge based** business solution

- Implements predefined business logic, engineering expertise and methodologies gained from years of experience within the operational environment
- Functionality is integrated in such a way that the core focus of improving reliability of supply is not lost. Considering the large amount of variables that can impact analysis outcome, an integrated approach is crucial
- Encapsulated business logic proved itself and can be used as a base for future development on other technology platforms without losing the benefit immediately available.

is a dynamic / integrated solution

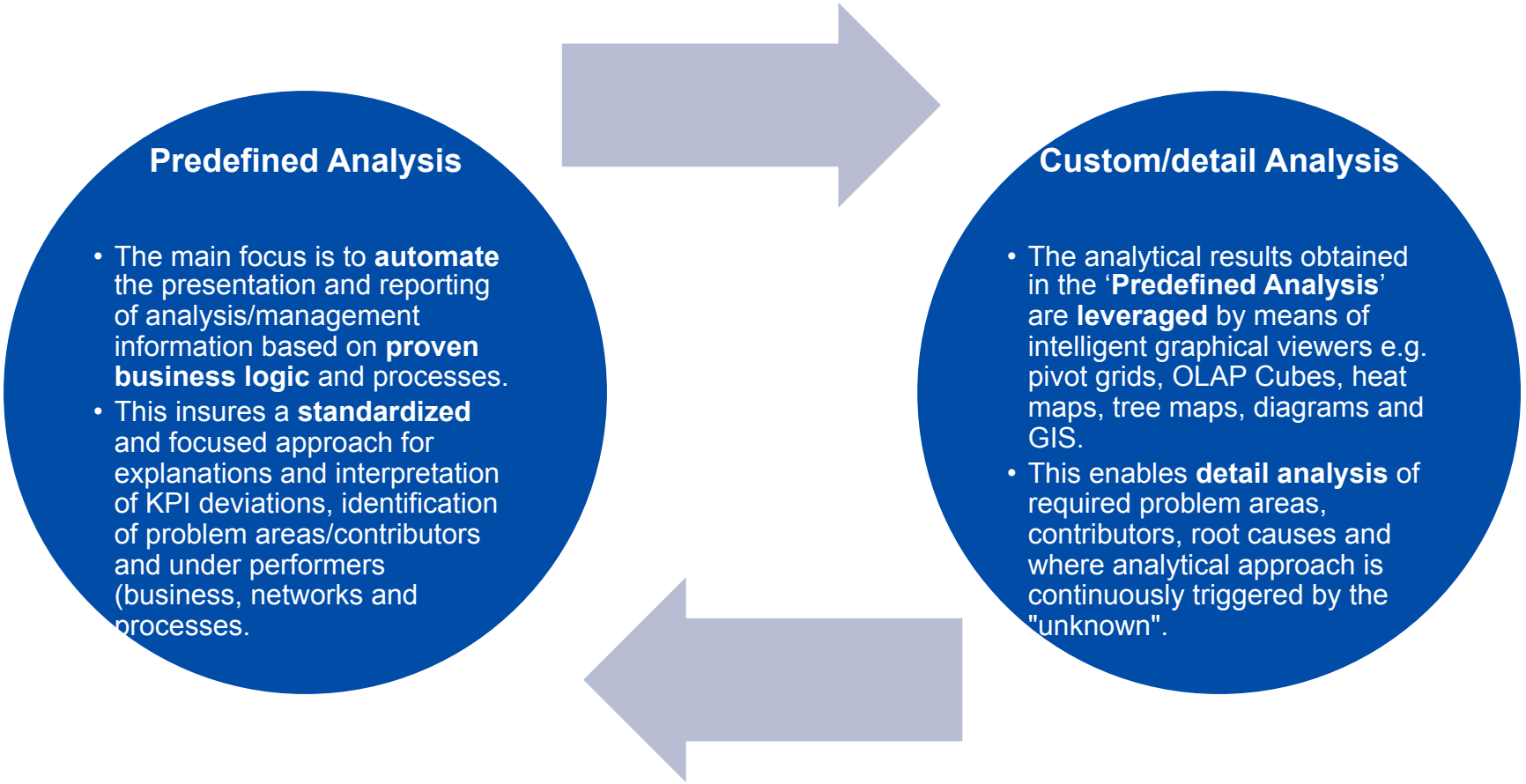
- Provides answers on engineering issues with minimum user intervention (eliminates data manipulation and ad hoc query/analysis results to be integrated)

Analysis Scenario

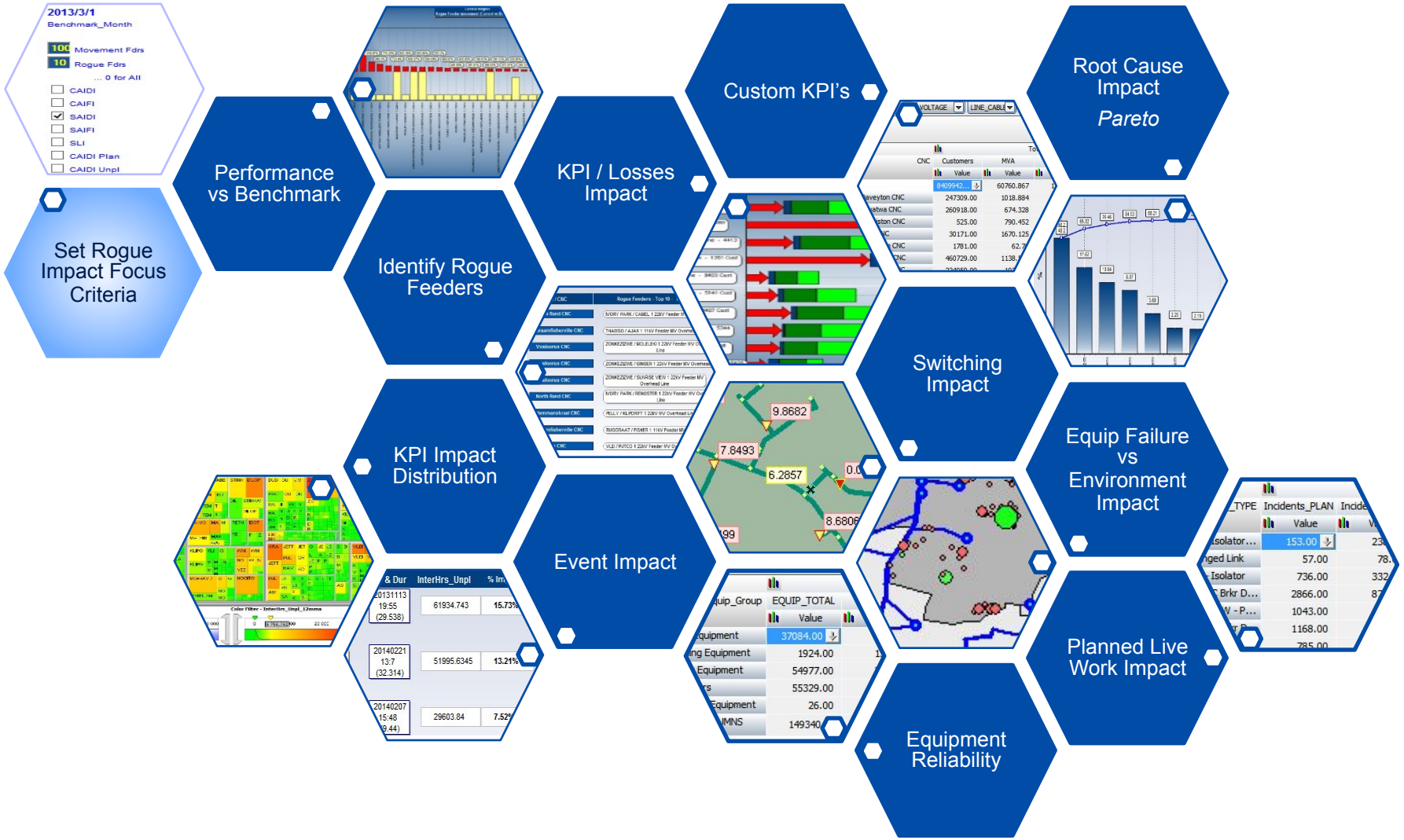


The entry point for analysis will be determined by the problem that has to be solved. The integrated architecture ensure multi dimensional approach for problem solving

Analysis Approach

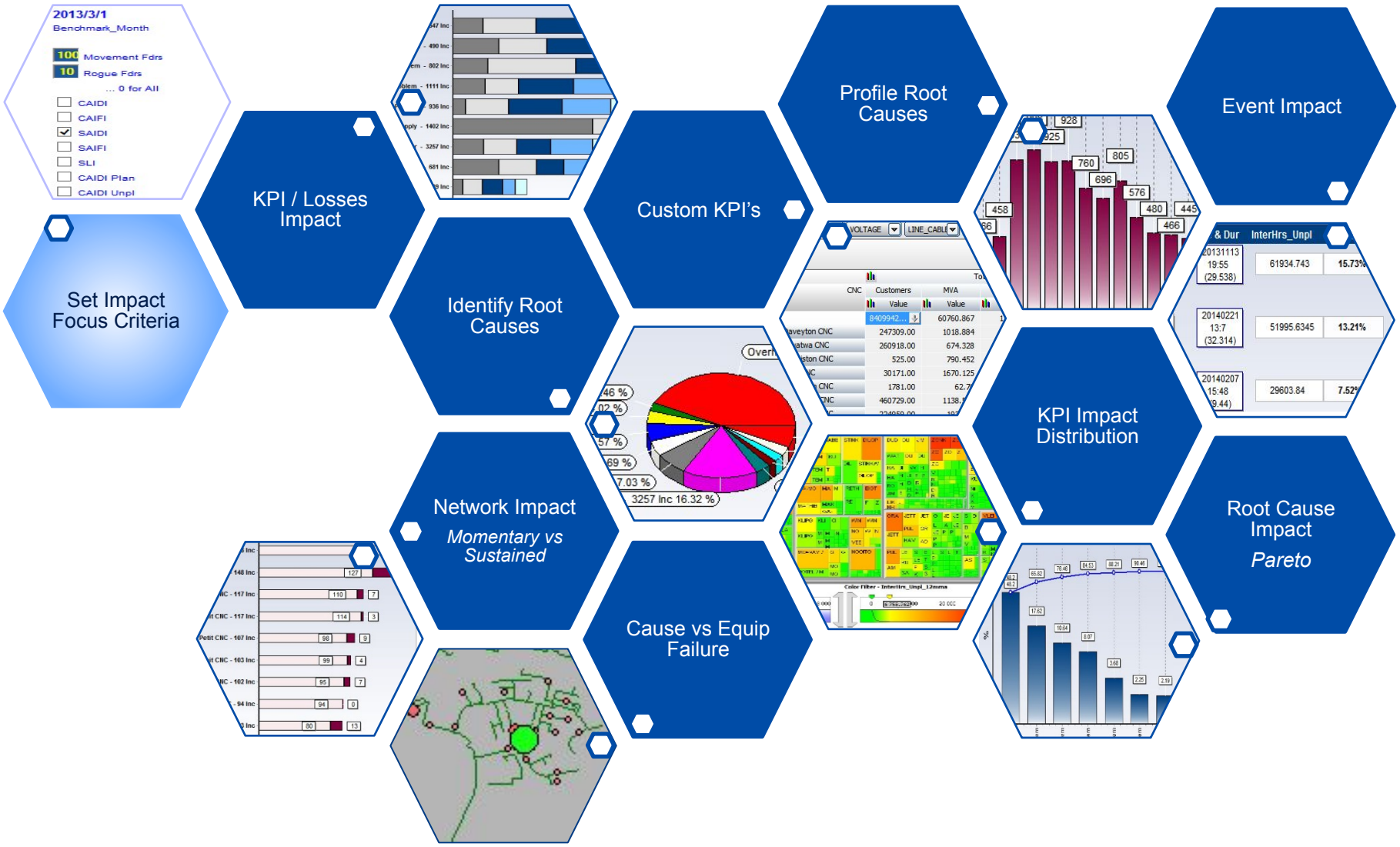


Rogue Network Analysis scenario



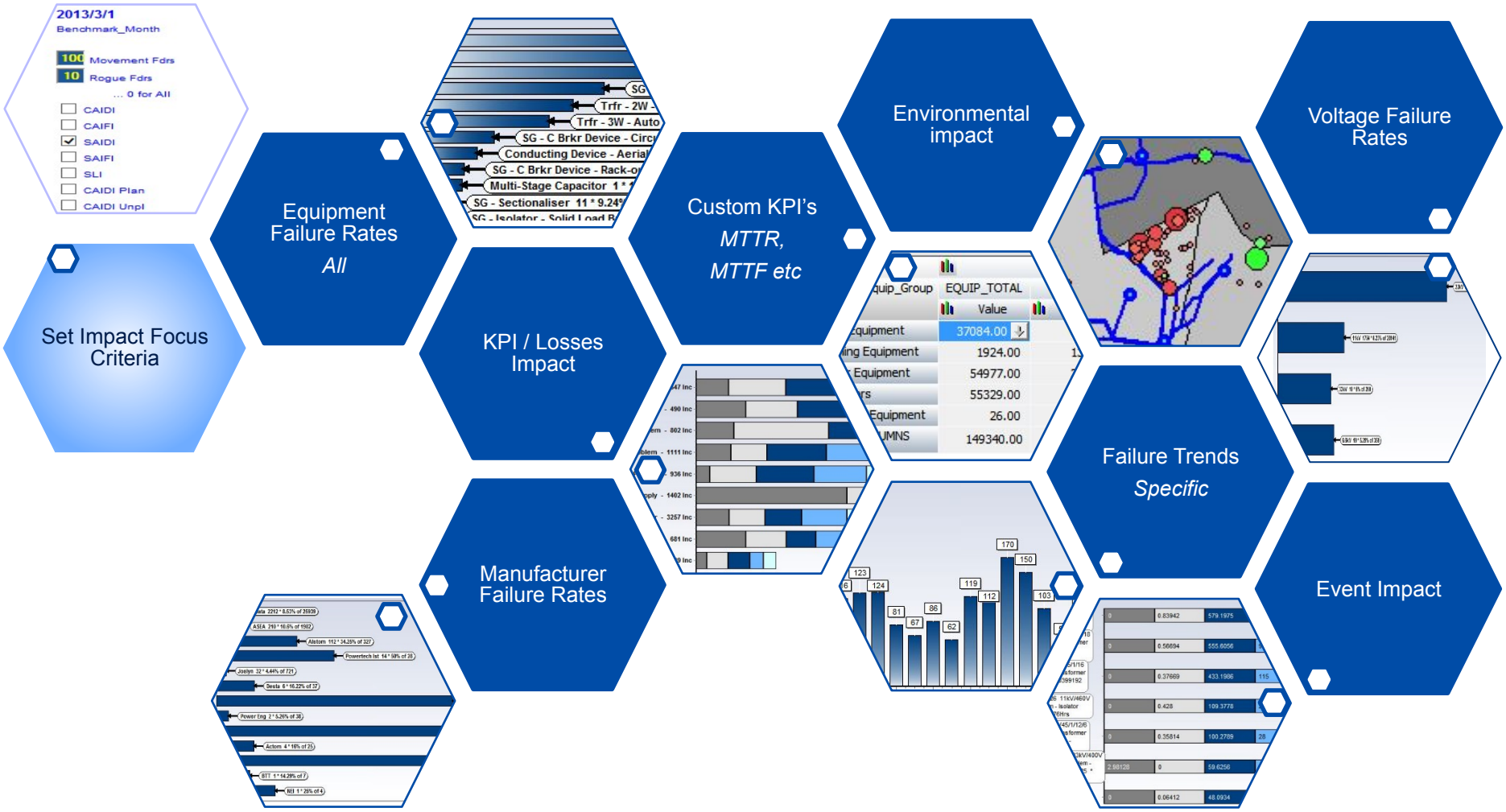
This is a typical scenario packaged to identify worst performing networks and impact on core business drivers. The approach is based on predefined engineering logic followed when enhancement projects on networks are initiated

Root Cause Analysis scenario



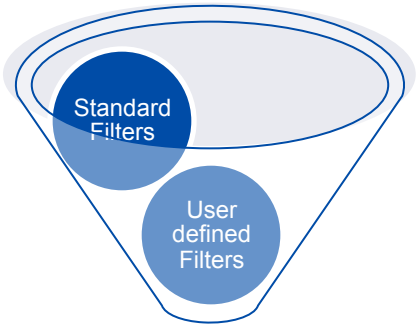
This is a typical scenario packaged to identify root causes and contributions on a global scale. The main focus here is to raise enhancement projects for root causes with highest impact across networks

Equipment Reliability Analysis scenario

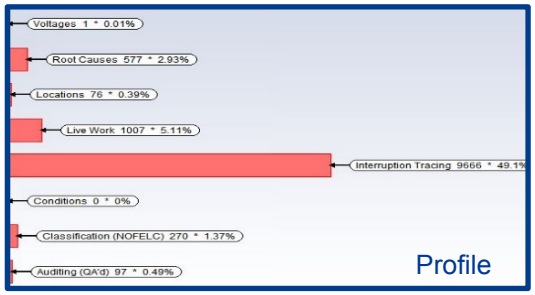


This is a typical scenario packaged to analyse equipment performance on a global scale but still considering the impact on the business core drivers. This analysis also supports the asset management and procurement processes

Data Quality …Non Conformances

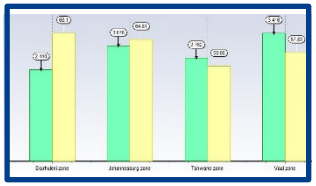


Criteria



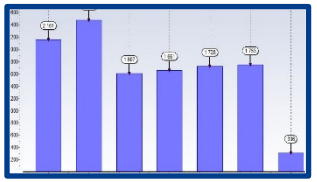
Profile

Categorize non conformances

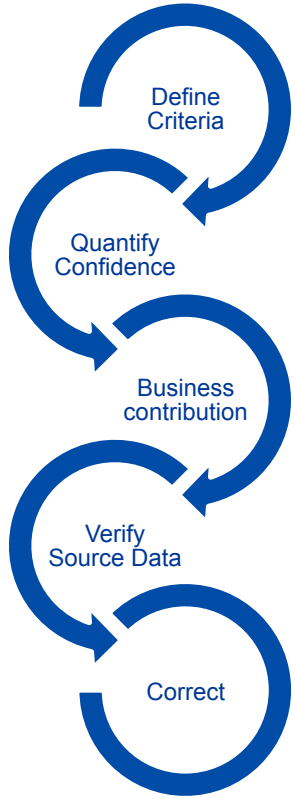


Business Breakdown

Source Data



Time profile



This environment is crucial to ensure data confidence in the core business drivers. User defined criteria can be set and monitored on a continuous basis. This enables data quality assurance staff to address data discrepancies in the source systems in an organized manner

Typical Analysis questions

- Where to invest on networks to enhance reliability of supply?
- How to identify and quantify impact of specific root causes e.g. theft, vandalism?
- How to identify and quantify impact of external induced scenarios on reliability of supply?
- How to identify poor business performance to ensure optimal infrastructure (planning) and support in the field to apply engineering expertise to solve problems?

Typical Problem

Initiate enhancement project for the networks that will improve core drivers e.g. reliability of supply. Typical Network Analysis is required with a multi dimensional approach. The core focus to identify and quantify the impact and return of investment for enhancement initiative

Based on the "**Unplan_InterHrs**"

- ✓ Identify 10 worst performing feeders for a specific business unit
- ✓ For the 10 worst performing feeders compare i.t.o. (calculate and chart)
  - % Impact on KPI's SAIDI / SAIFI / SLI
  - % Impact on base Indicators InterHrs / Interruptions / MVAHrs
- ✓ For each Rogue feeder compare i.t.o. (calculate and chart)
  - 10 Worst Events
    - Show impact of switching
  - Root Causes
  - Geographically plot network (calculate and plot)
    - Show operational switching impact
    - Show Root Cause % Impact
    - Show customers affected at switches
    - Show network affected sections
    - Show Distribution substations and lines
- ✓ Compare worst performing networks in Heatmap i.t.o. Unplan_InterHrs : Colour
  - customer base and line length : Size
- ✓ Identify 20 networks that perform worst than benchmark date Mar2013 (calculate and chart)
- ✓ Generate analysis report for all business unit levels

Business benefit

- ✓ **User has control** in defining methodologies, strategies and analytical reporting
- ✓ **Reduction in investigation** / analytical time
- ✓ **Consistency** within methodologies based on best practices
- ✓ System facilitates **knowledge base expansion** across the business (expertise and experience encapsulated in system therefor not dependant on individuals)
- ✓ **Generation of prototype measures**
- ✓ System not reliant on network connectivity for operation **(100% availability)**
- ✓ Due to the **integration of the various disciplines** into one platform, time spent on activities / operational analysis are drastically reduced (answers available within seconds)
- ✓ Engineering staff on all levels are **productive from day one**
- ✓ Emphasis moved to **solving engineering problems** and not on reporting

Business benefit…

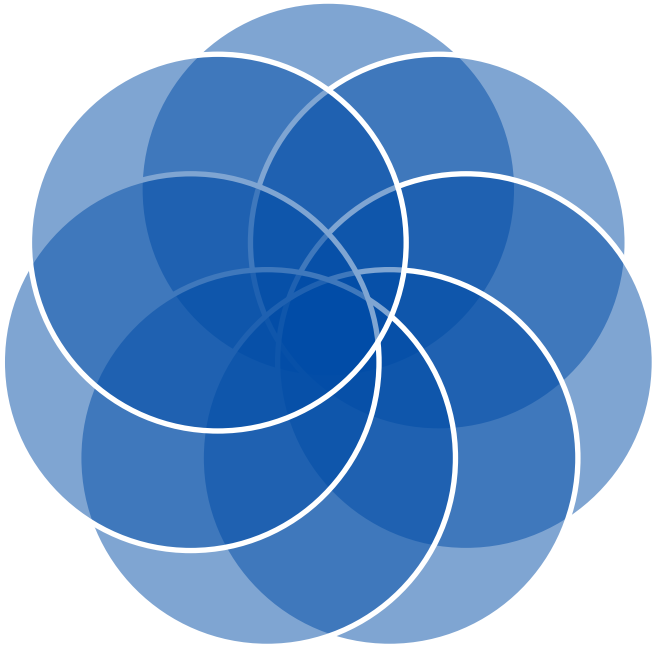
- ✓ The system act as base for **analytical workshops** and **skills development**
- ✓ The system act as base for **technical meetings** (answers to problem areas real time)
- ✓ Almost 100% of the time **answers** can be provided with a **few clicks**
- ✓ System has built-in yet flexible engineering business intelligence/ logic which allows for a sound preliminary foundation prior to commitment of resources for in-depth investigation. (i.e. **Starting point not in roots but post foundation)**
- ✓ Business rules are **transparent** and configurable with security (almost **0% data manipulation**)
- ✓ **Specialized engineering functionality** can be implemented in a very short time

Customer Testimonial

The current business tools for reporting & analysis of performance data has always been a challenge for Performance Engineers.

It enables analysis to be done on various scenarios on any business level with immediate view & answers to management & planners

With Eskom change from 6 Regions to 9 Operating Units (OU's), this challenge to meet business requirements became even bigger.



Another major advantage with OROS is that it is not network dependant. We are able to perform these tasks offline (not dependant on servers that are either off line or slow) .

The tool is in line with defined business rules (NRS & Eskom standards) & fully configurable.

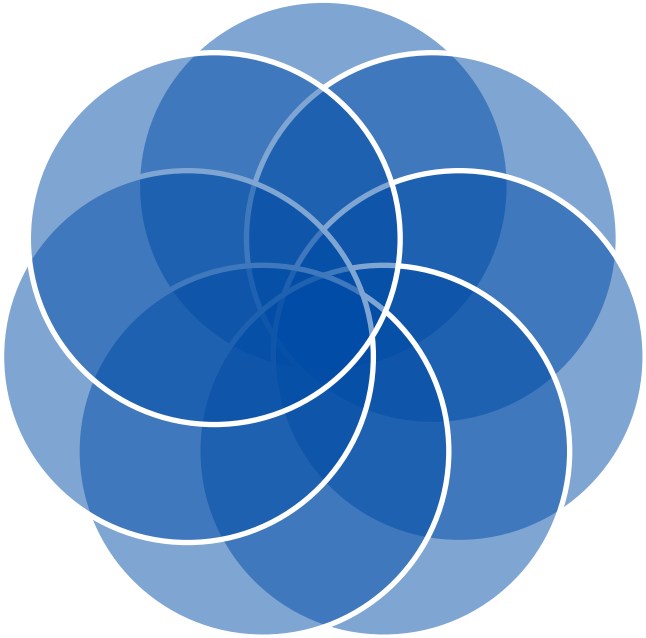
With OROS we are also able to at any time drill down into detailed information and pin point problem areas at specific points on networks.

This tool enable us to analyse & report on technical KPI's on all business levels (from National to OU to Zone to CNC to Feeders).

Customer Testimonial…

OU Management demands more & more detailed reporting and real time analysis of performance data during operational meetings.

All these problems are addressed by OROS



Emphasis moved from data manipulation to problem solving

Engineering staff loose interest & enthusiasm in analyses & solving problems due to the cumbersome process to get meaningful results

Data interpretation vary from person to person which put accurate analysis and reporting at risk.

OROS is set to perform pre-defined analysis. This saves time and frustration for Engineers.

Skilled and experienced staff is required to interpret data into Excel or Access) time consuming

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Thank you