



SIMAIN[®] - We care. OPEX Reduction

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MAINTAINING YOUR PRODUCTION PLANT MEANS FACING **SIEMENS** MANY CHALLENGES IN YOUR DAILY BUSINESS

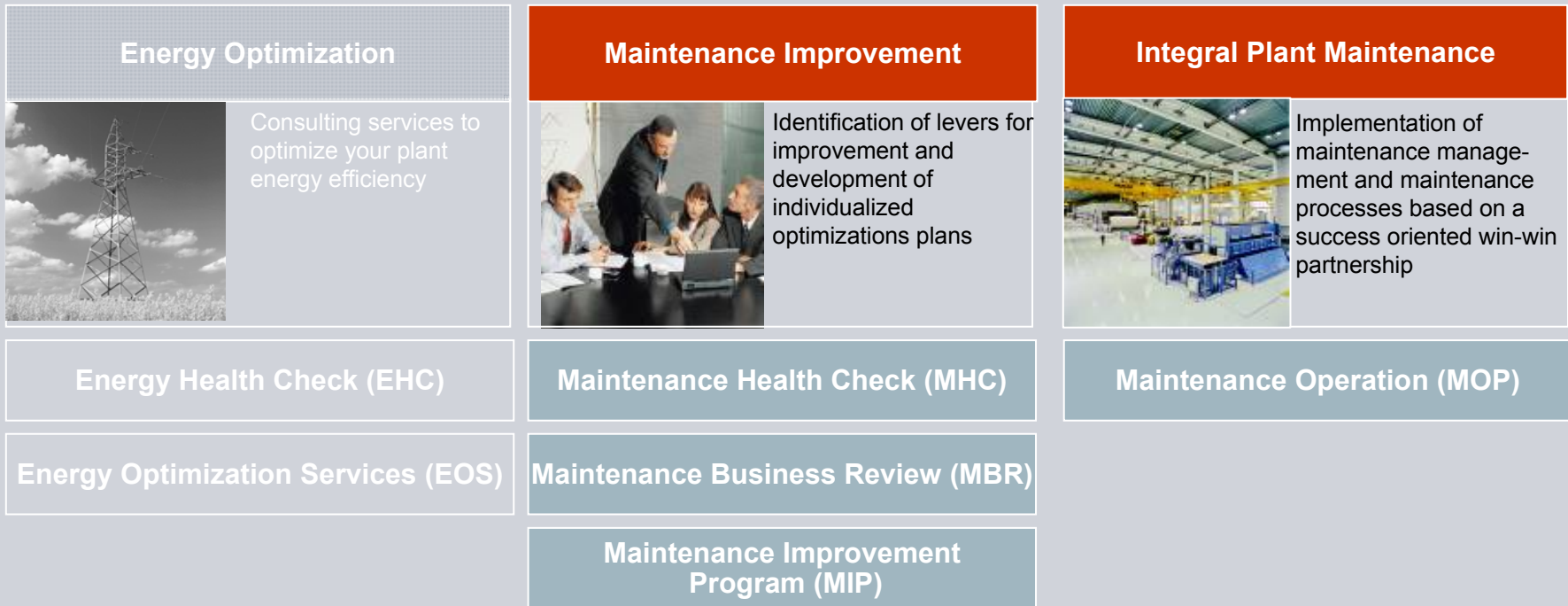


ASSET PERFORMANCE MANAGEMENT

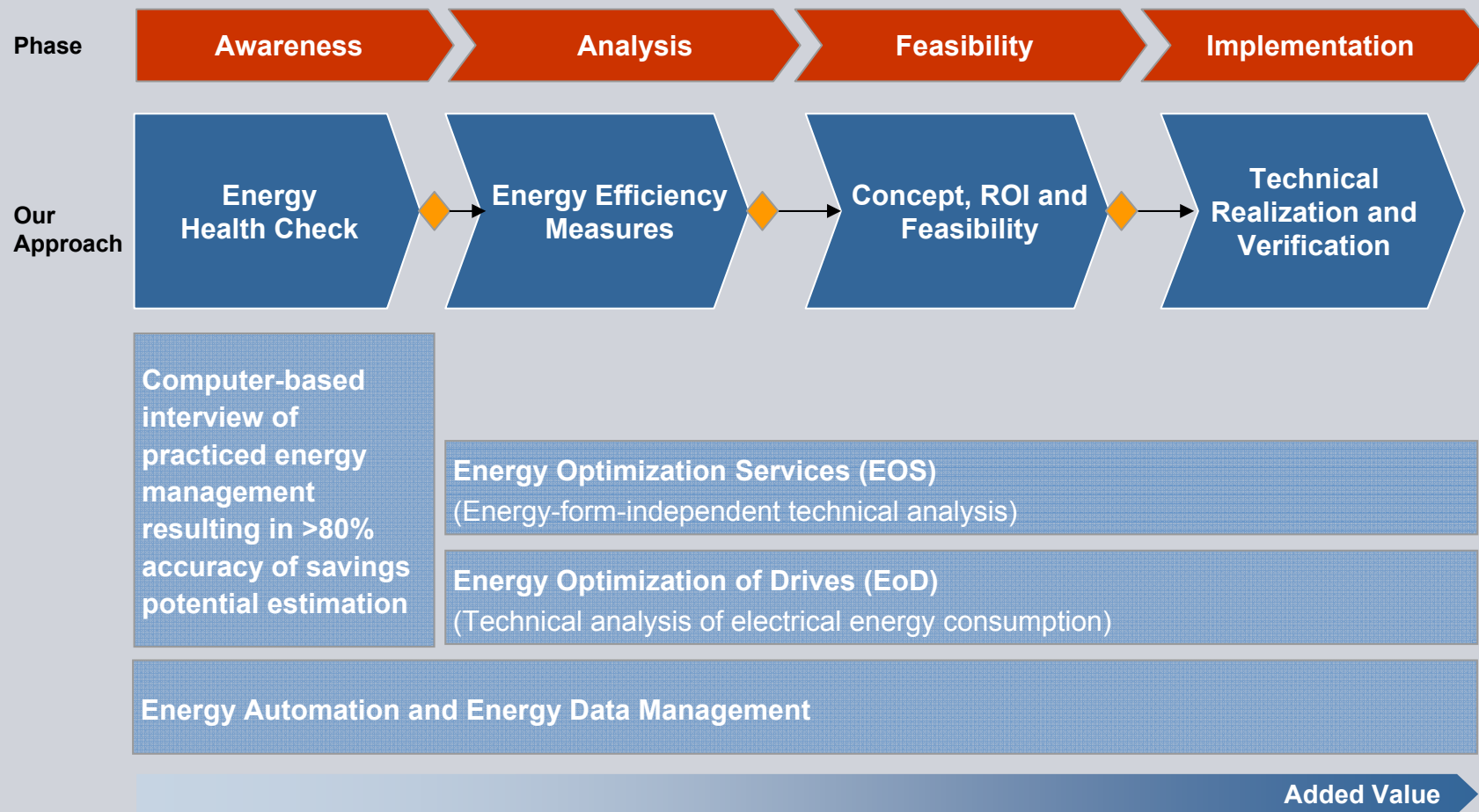
... our Portfolio



Asset Performance Management

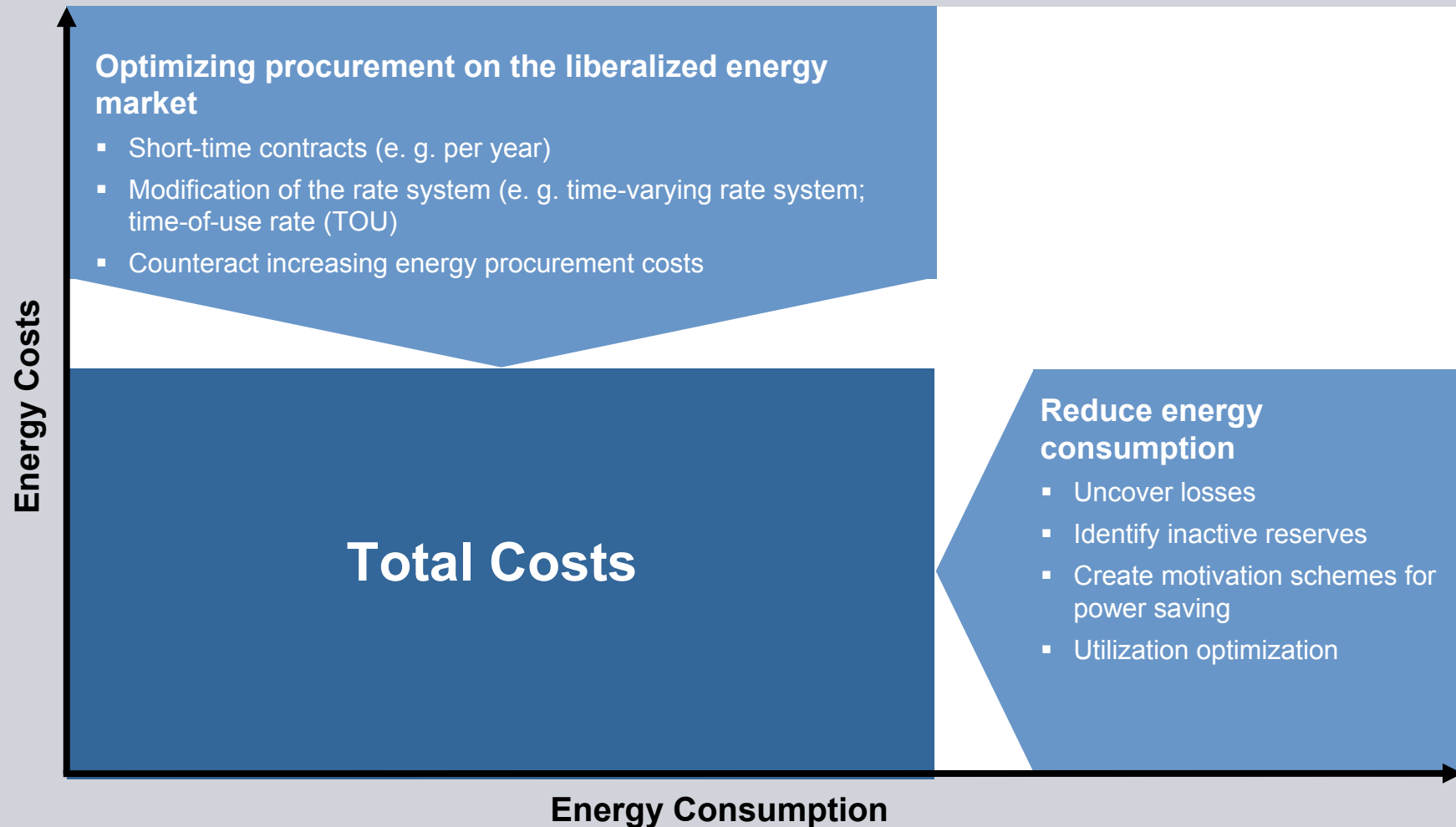


ENERGY OPTIMISATION – Guiding mental and technical improvements in energy management **SIEMENS**

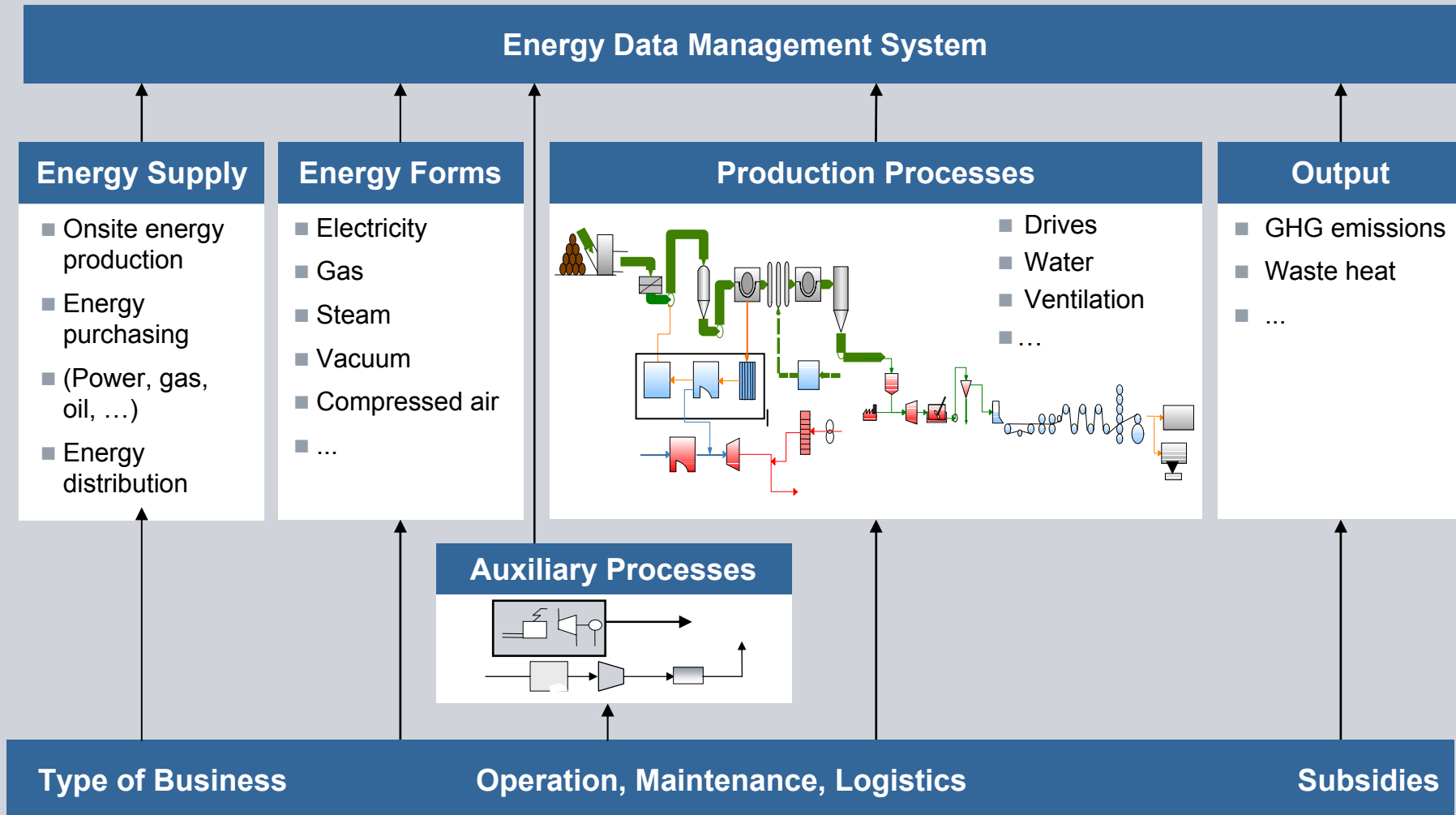


◆ Go/No Go

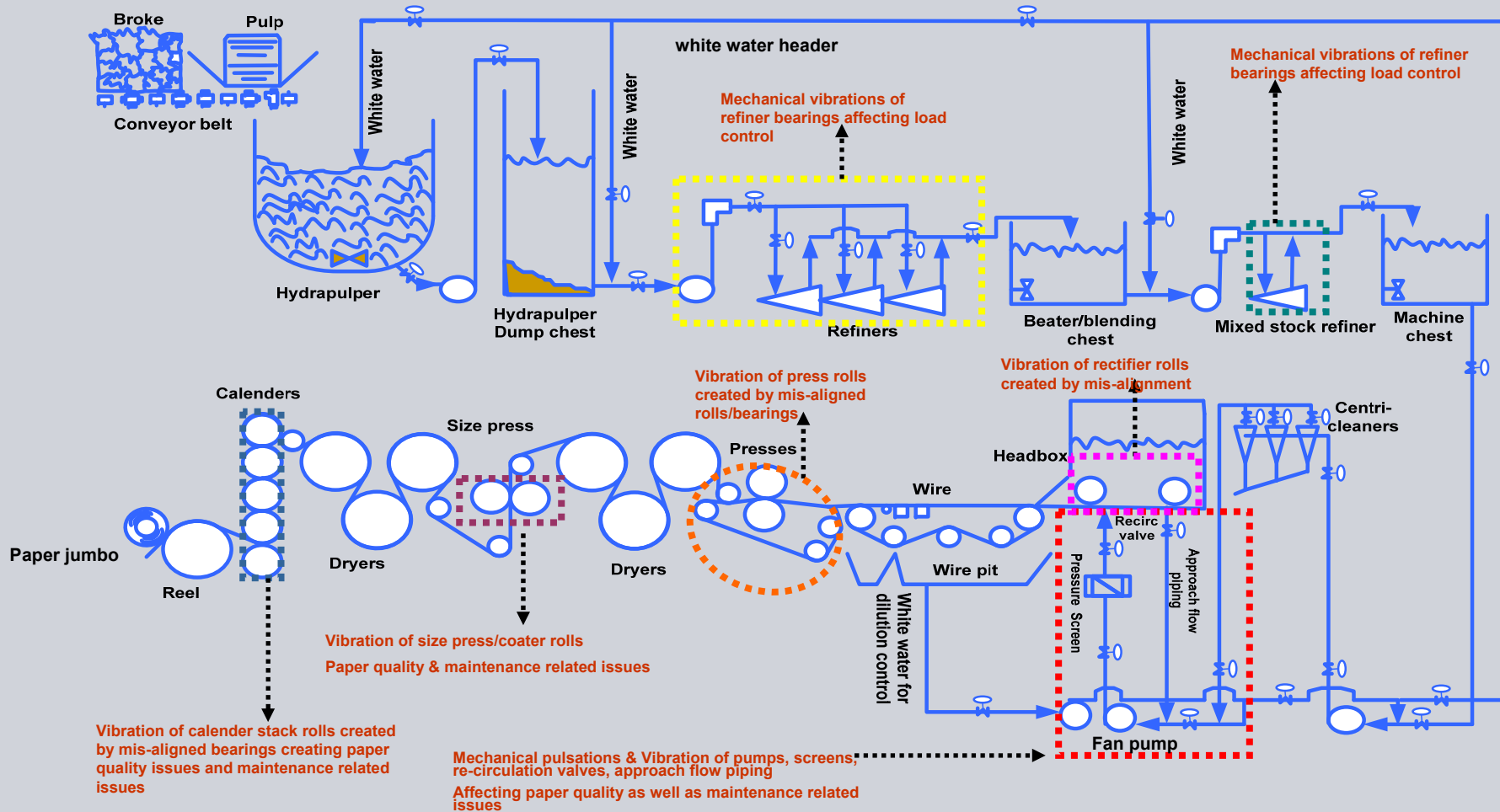
REDUCTION OF OPERATING COSTS



HOLISTIC APPROACH covers all areas of energy optimization of your industrial plant

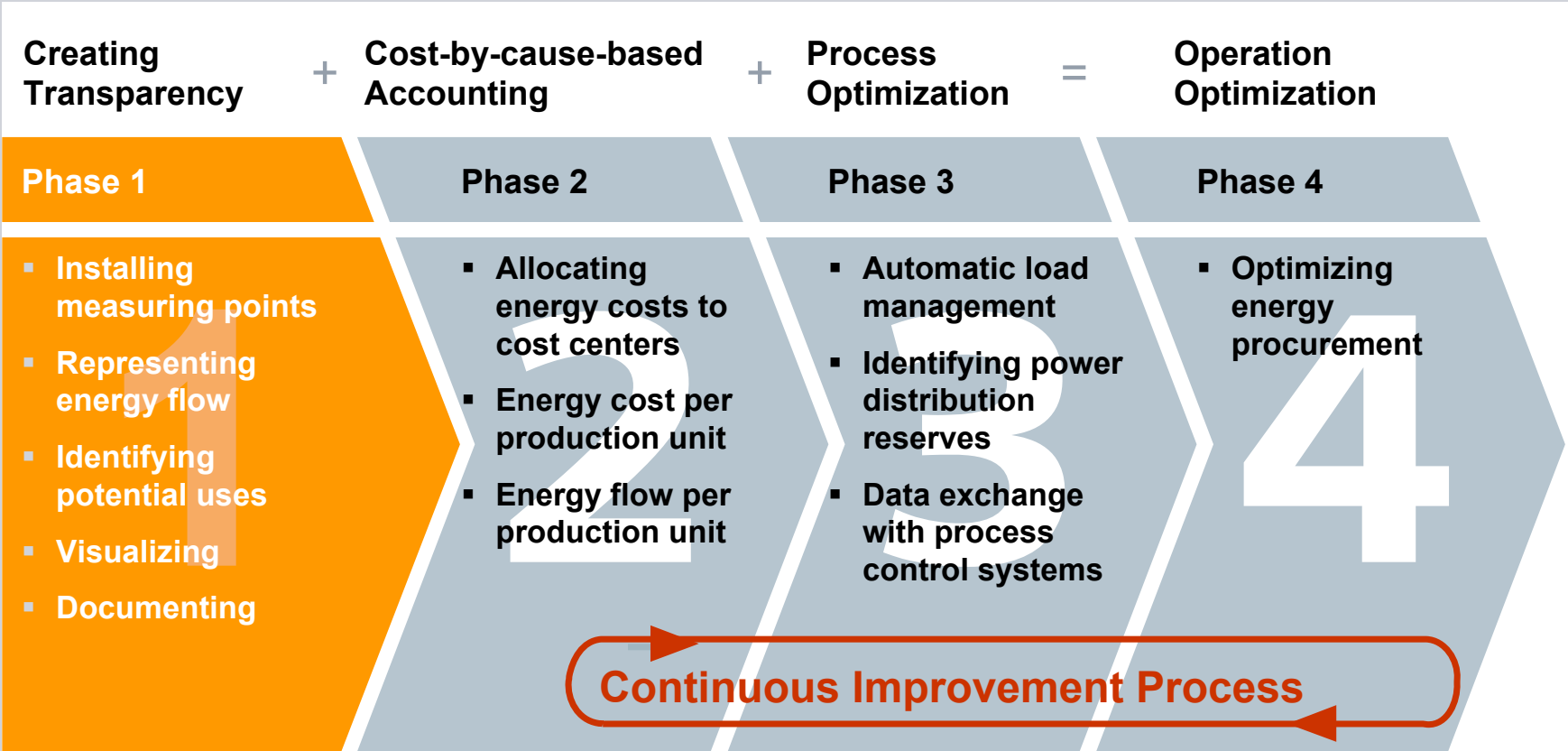


USE OF SIPLUS CMS FOR THE PAPER MACHINE ENERGY OPTIMISATION & MAINTENANCE REDUCTION



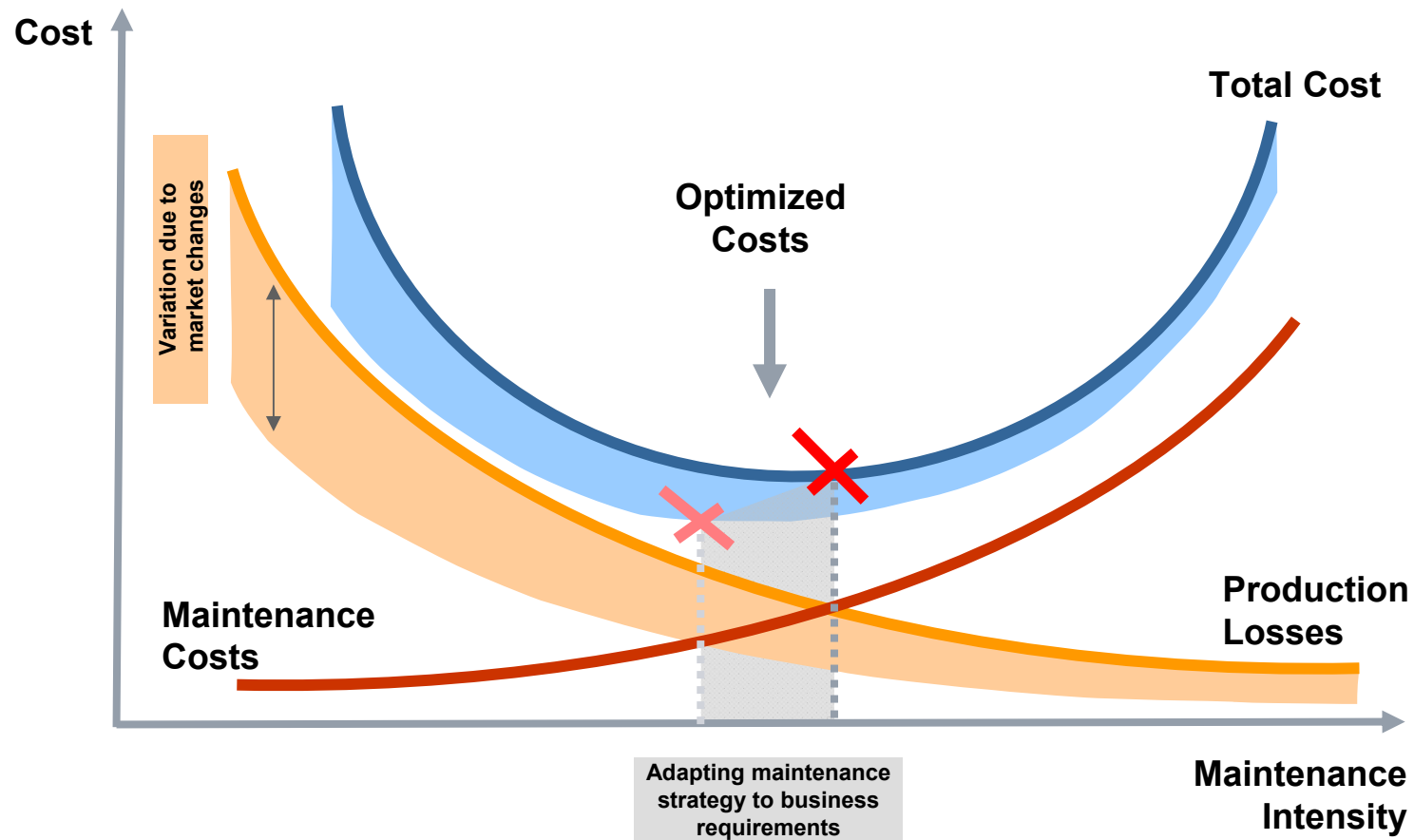
YES TO ENERGY MANAGEMENT - But Sustainable!

Phases of Implementation

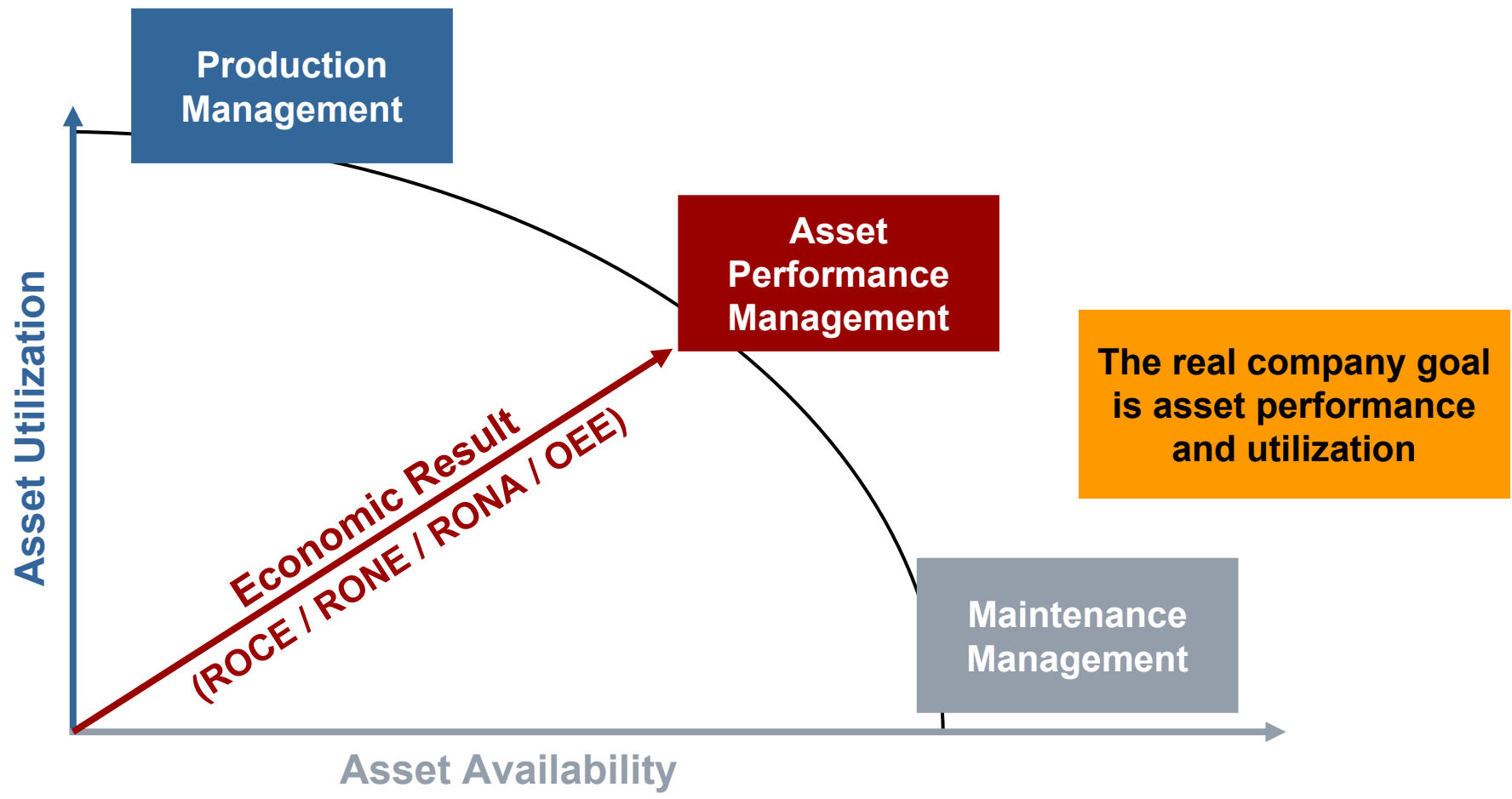


Energy Management – Implementation Example

CHALLENGE IS FLEXIBILITY IN ALIGNING YOUR BUSINESS TARGETS AND MAINTENANCE STRATEGY



OUR APPROACH MAINTENANCE AND PRODUCTION HAVE **SIEMENS** COMPETING GOALS



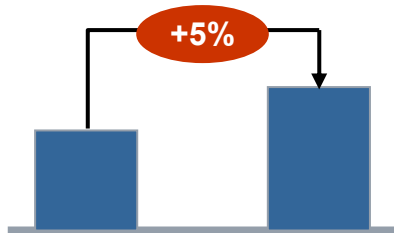
CUSTOMER BENEFITS – examples of sustainable maintenance improvement



JV



Increased plant availability

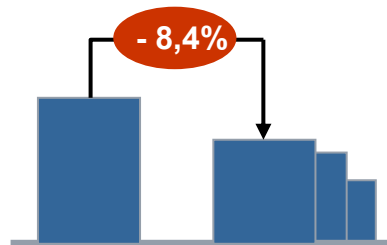


Smurfit Kappa Baden Karton GmbH
Germany

MIP



Continuous maintenance cost reduction

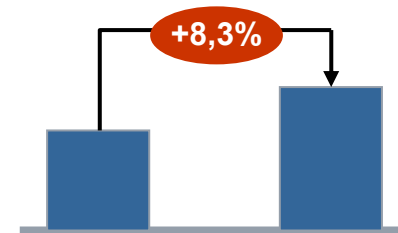


Metsä Tissue
Sweden

IPM



Increased plant availability

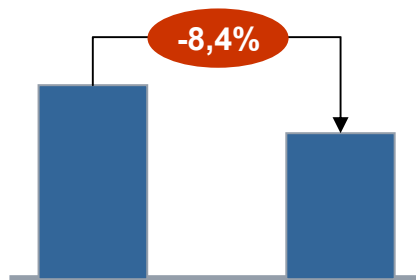


PaperLinX
Australia

MAINTENANCE IMPROVEMENT at Metsä Tissue Smaland Mill in Sweden



Spares and services costs
per produced ton



Challenge

- Implement new improved maintenance management processes as defined jointly with the customer
- Support customer to develop increasing competences regarding maintenance management
- Achieve costs and production improvements on a plant that already was internal benchmarking for the group

Solution

- Maintenance Health Check (MHC) identified gross improvement potential which was later confirmed by a detailed Maintenance Business review (MBR)
- Development of a Corporate Maintenance Handbook jointly with the customer
- Maintenance Improvement Program, with a Siemens maintenance manager full time on site and support from maintenance experts for 8 months

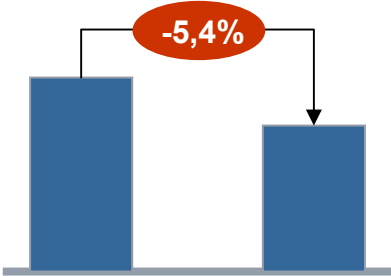
Customer benefit

- Outstanding maintenance performance levels:
 - > 80% proactive maintenance
 - Preventive maintenance compliance > 95%
- 9% reduction of the maintenance costs (spares and services) after 10 months (4% forecasted till year end)
- 2,9% paper production improvement and 6,9% production improvement in the converting lines
- Project pay off in the first year (ROI < 1 year)

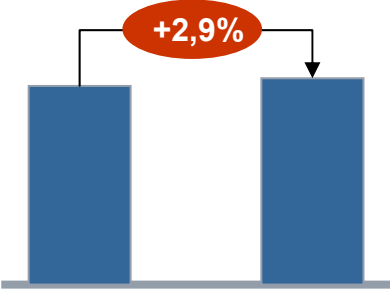
EXAMPLE: Summary of the results after 10 Month of implementation of improvement measures

Plant 1

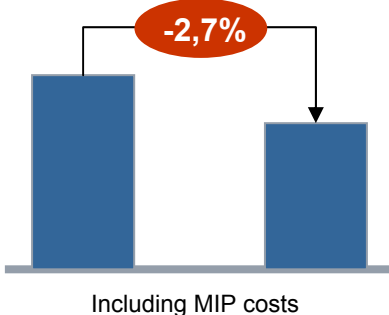
Monthly Maintenance Costs



Uptime Paper Machine

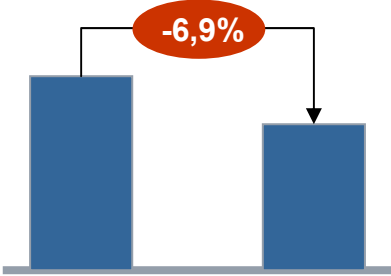


Cost / produced ton

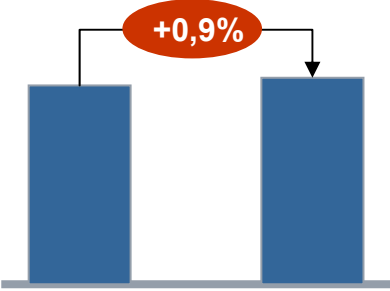


Plant 2

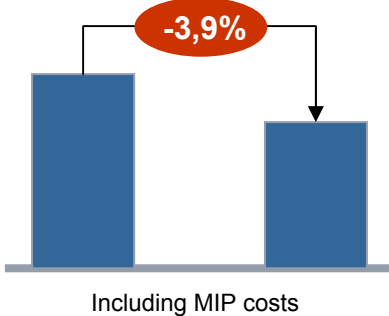
Monthly Maintenance Costs



Uptime Paper Machines



Cost / produced ton



MAINTENANCE - JV with Kappa (Germany) - SIEKAP



The Solution

Establishment of a Maintenance Company (JV) between Kappa and Siemens. Take over of all maintenance processes on the basis of a Performance Based Contract with Open-Book agreement.

The Performance Indicators are:

- Safety
- Maintenance Costs
- Asset Condition
- Plant Downtime

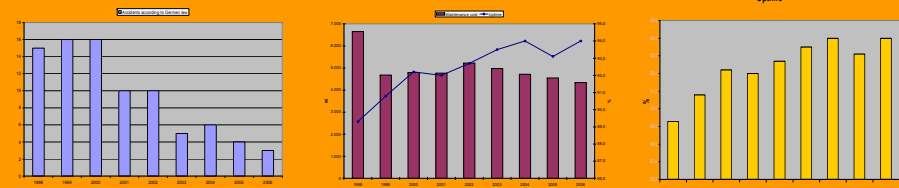
Start of Contract: 2000

The Task

A Maintenance Business Review followed by the implementation of a new maintenance culture with the take over of all maintenance activities for the process equipment incl. facility management at Kappa Badenkarton, Germany

The Result

- First-class safety record
- Maintenance costs (-17%)
- Uptime (increased 5%)



IPM Contract for 3 paper-mills at PaperLinX

SIEMENS



Challenge

- Concentration on the core business
- Raise equipment availability through improved maintenance procedures
- Decrease of comparably high maintenance costs
- Fast introduction of "best practice" in maintenance

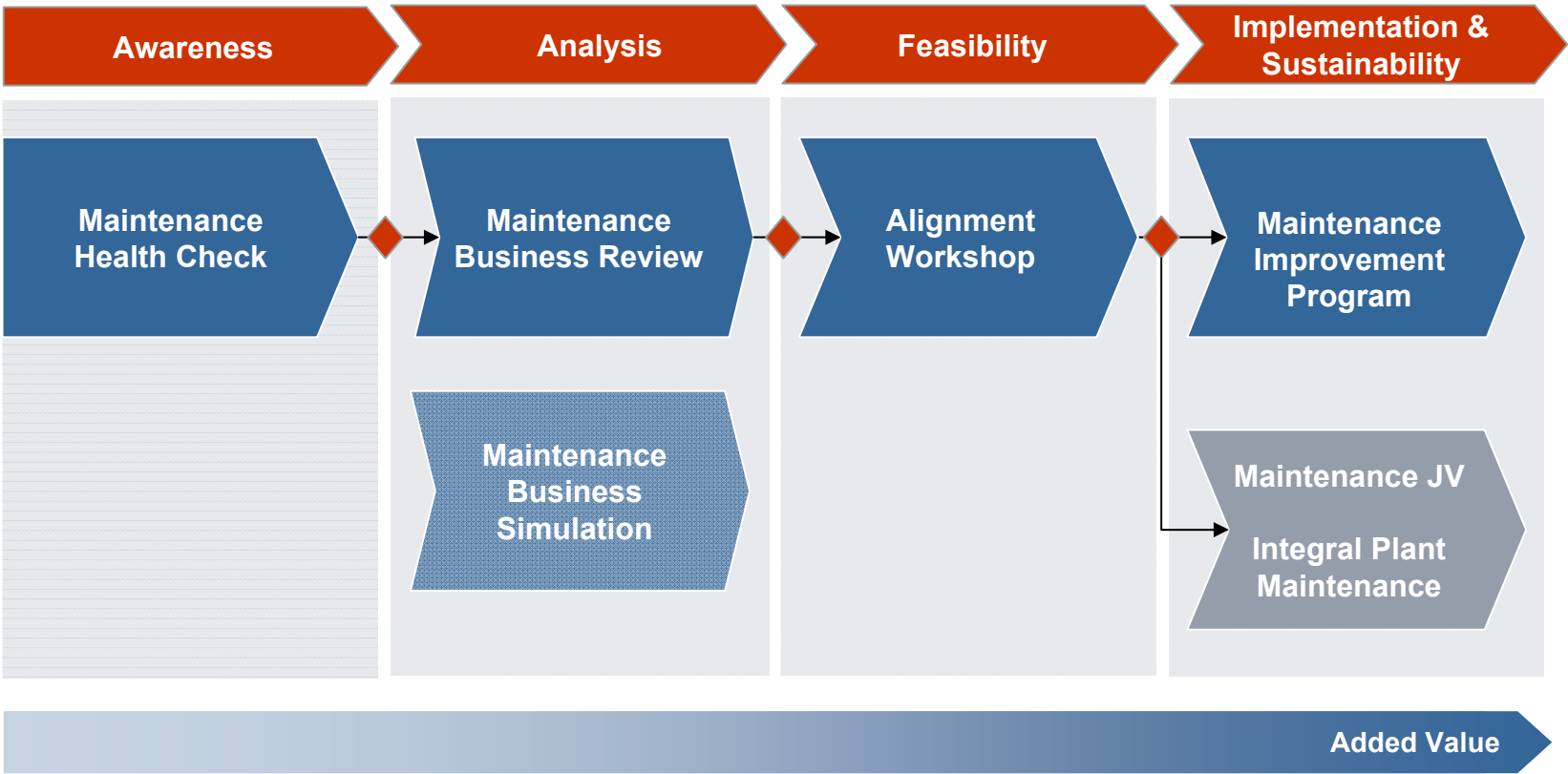
Solution

- Introduction of maintenance business reviews with subsequent prioritized action planning
- Implementation of Overall Equipment Effectiveness (OEE) methodology
- Implementation of preventive and predictive maintenance routines
- Systematic adoption of newer technologies in the CBM Program, e.g. ultrasonic emissions from transformers,
- Breakdown / Defects maintenance activity
- Materials and spare parts purchasing and procurement activity associated with maintenance
- Stores and inventory activity associated with maintenance

Benefit

- Reduction in maintenance expenses in nominal and real terms while production output has risen
- Overtime reduced by 70%
- Planned maintenance has risen significantly from 20% up to 80%
- Condition based maintenance dramatically expanded with machine availability in the very high 90's
- Lost time injury number reduced to zero
- Vastly reduced stock holdings

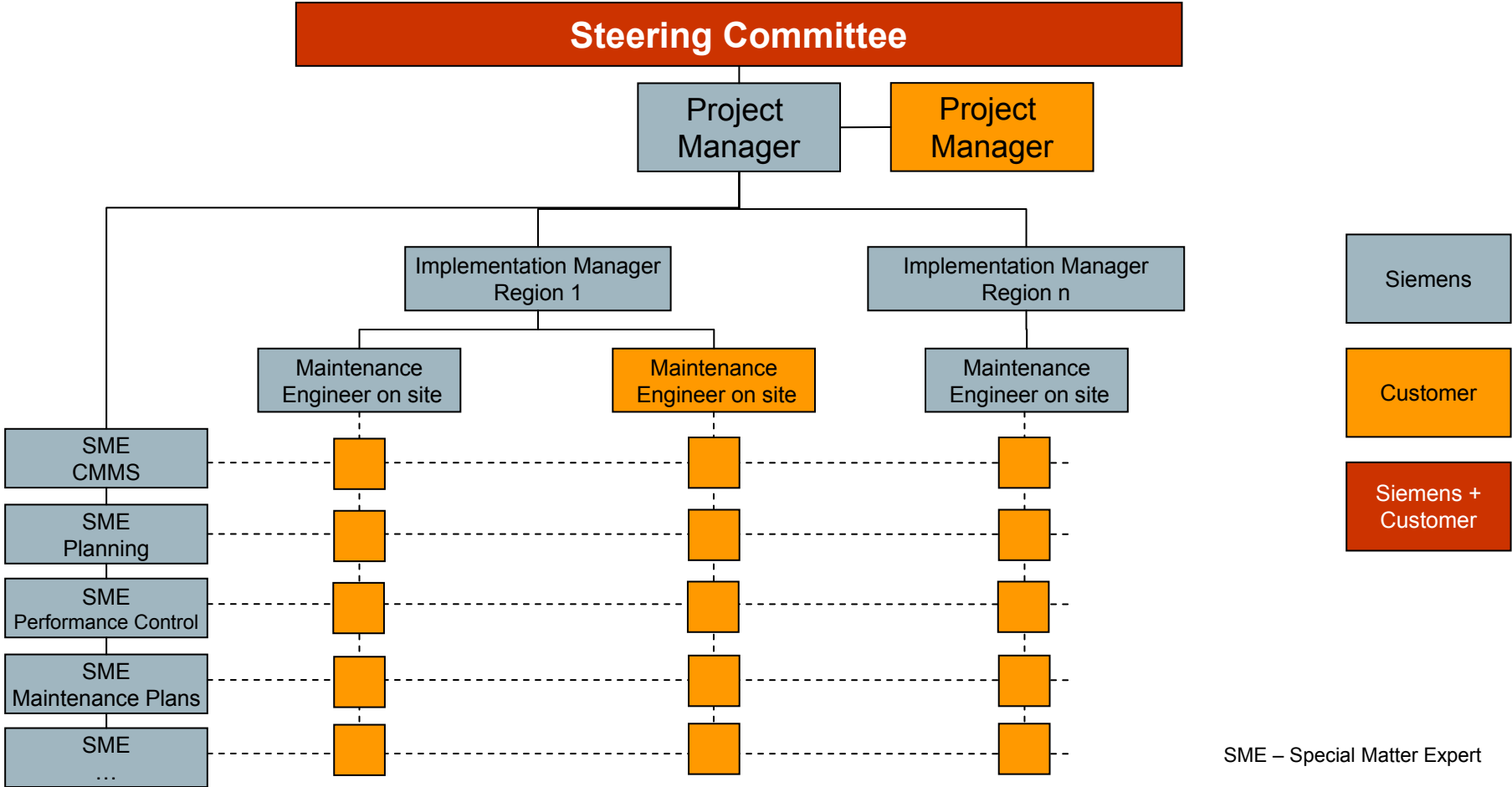
STEPS FOR MAINTENANCE OPTIMISATION



◆ Go/No-Go Decision

HOW DO WE DO IT ?

MAINTENANCE IMPROVEMENT PROGRAM



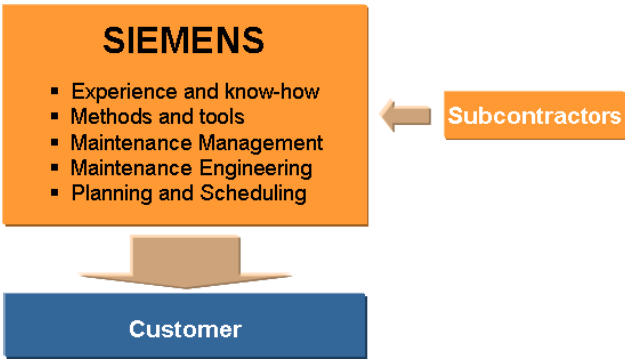
SME – Special Matter Expert

MODELS OF SIMAIN
in either an outsourcing or a joint-venture partnership

PLANT MAINTENANCE

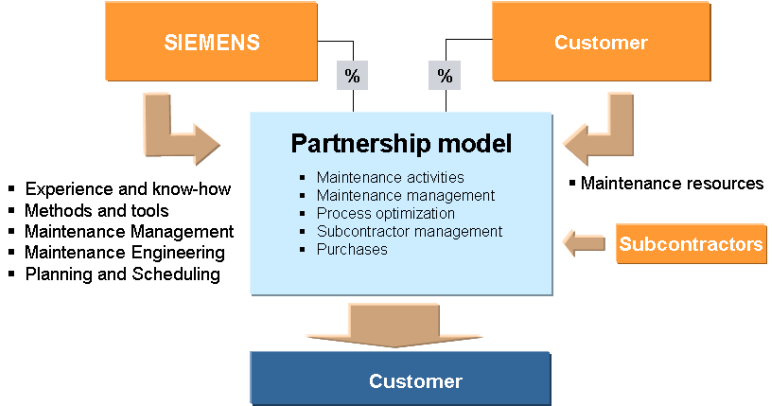
Integral Plant Maintenance

- If you want to concentrate on your core business, we are your reliable partner for managing your maintenance organization as a responsible contracting partner
- We manage your maintenance processes on the basis of a performance-based contract



JV-Partnership model

- If you consider maintenance to be your key competence, we can collaborate on the basis of a partnership model with your company



MAINTENANCE HANDBOOK



Asset Management

- Maintenance Business Strategy
- Continuous Improvement Process

Performance Control

- Maintenance Performance Control
- Plant & Equipment Performance Management
- Financial Control
- Health and Safety Management

Personnel & Organization

- Organizational Structure
- Personnel development & training

Spares & Resources

- Spare Parts Management
- Contractor Management

Maintenance Processes

- Workflow Process
- Document Management
- CMMS Integration

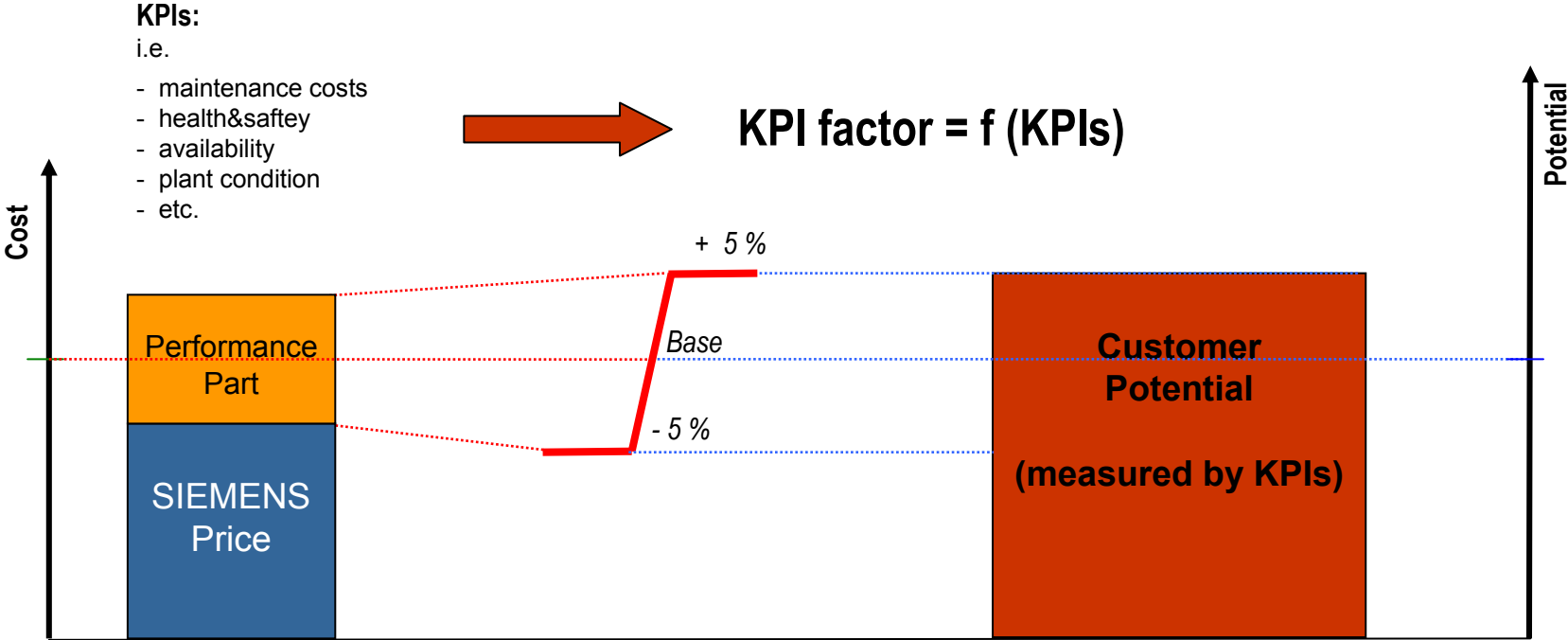
Equipment Maintenance Strategies

- Maintenance Plan & Resource Development

Planning & Scheduling

- Planning & Scheduling / Shutdown

PERFORMANCE BASED CONTRACT MODEL



UNIQUE BENEFITS



My maintenance costs were reduced
sustainable

Our new maintenance handbook does
guarantee the sustainability of our
implemented improvements

My spare parts stock is now
optimized and therefore also
reduced

The maintenance targets are
aligned with my business targets

I can concentrate on my
core business