

# **Specific operational risk analysis (SORA)**

*Presented by*

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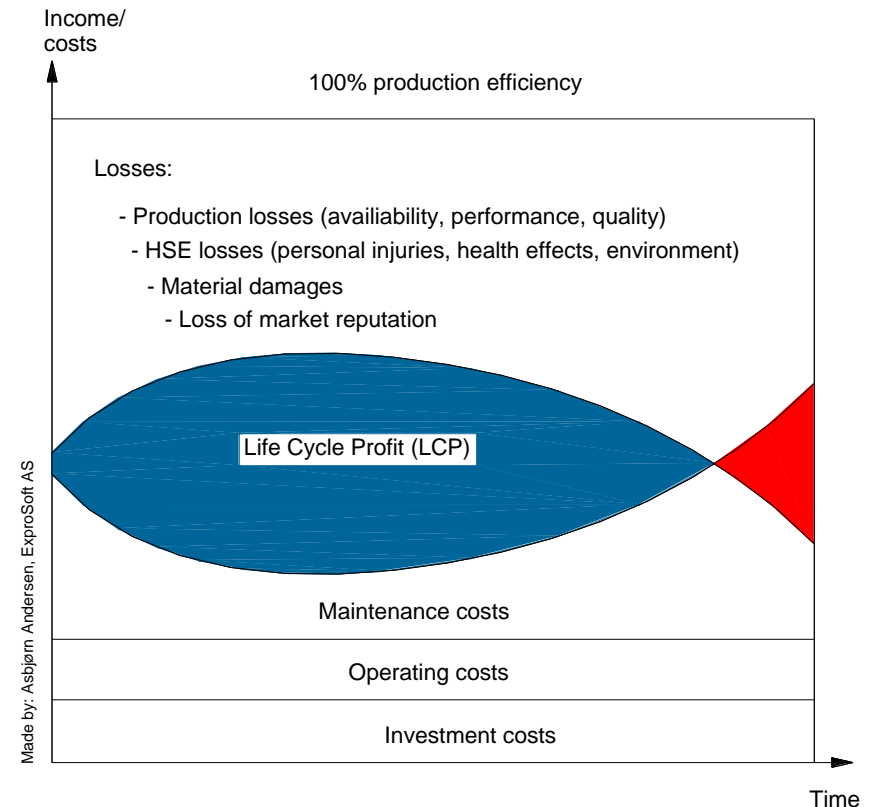
# SORA objective

## ■ Main objective

- Reduce operational losses
- Increase operational efficiency
- Reduce operational costs

## ■ Detailed objectives

- Increase knowledge among participants
- Establish awareness among participants
- Team building



***All companies must have a reasonable profit to stay in business***

# Profit threats

## ■ External

- Competition from new and more efficient oil companies
- Low price foreign workers
- Stricter HSE regulations

## ■ Internal

- Smaller oil and gas fields with less margins
- Reduced number of senior personnel (increasing retirement pensions)
- Reduced job period for operational crew compared to the free period
- Reduced motivation among workers in well established businesses

# Focus

## ■ Technology

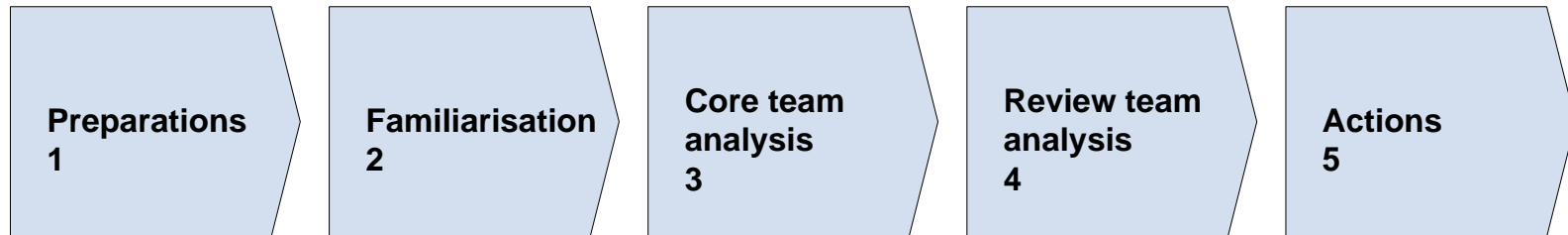
- Technology interfaces
- Technology faults caused by wrong use
- All technology is regarded as qualified from a technical point of view

## ■ Organisation

- Company interfaces
- Human errors in general
- Roles and responsibilities

# Work process

- The SORA work process is divided into five activities



The core team becomes familiar with the documentation

The analysis is reviewed and corrected by a multi-discipline review team

Agree on what to do, appoint participants and provide documentation

The core team is filling out the risk analysis worksheet

Actions are evaluated and implemented

# Worksheet

## ■ SORA worksheet

| Operational steps | Study nodes | Operational problems | Causes | Consequences | Risk | Suggested risk reducing actions and remarks |
|-------------------|-------------|----------------------|--------|--------------|------|---|
|                   |             |                      |        |              |      |   |

## ■ Note

- The operational process will be modelled in flow charts prior to the analysis
- The worksheet will be adjusted to the system to be analysed
- Each column has a predetermined and structured format for the content
- Risk is a function of failure rate and severity
- Both *existing* cause and consequence reducing actions are included
- Suggestions for *new* cause and consequence reducing actions are included

# Support

## ■ Worksheet columns

- Operational steps
- Operational problems
- Causes
- Consequence
- Risk
- Risk reduction

### ExproBase

- Equipment database
- Failure mechanism database
- Functional failure database
- Human error database
- Human performance database
- Human resistance
- Material database
- Operational conditions
- Design advises
- Guideline for operational process modelling

# When

- **Operational preparations**

- The SORA should be executed during the operational preparations