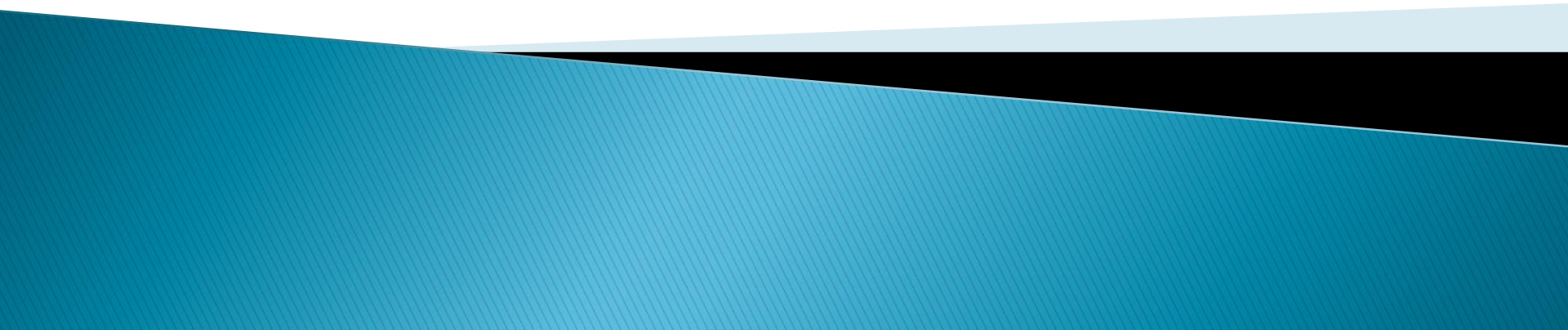
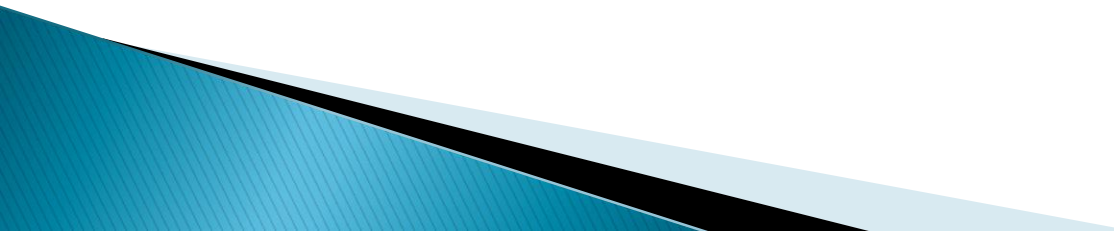


CBR for Advice Giving in a Data-Intensive Environment



Introduction

- ▶ Oil and gas industry have access to large amount of data and information
 - ▶ System that will assist oil well personnel during drilling
 - ▶ Human experience from earlier poor hole cleaning incidents are gathered in a case base
- 

Case collection and interpretation

- ▶ Continuous data stream from the drilling operation
- ▶ Volve`s software extends the screen information to ensure better decisions

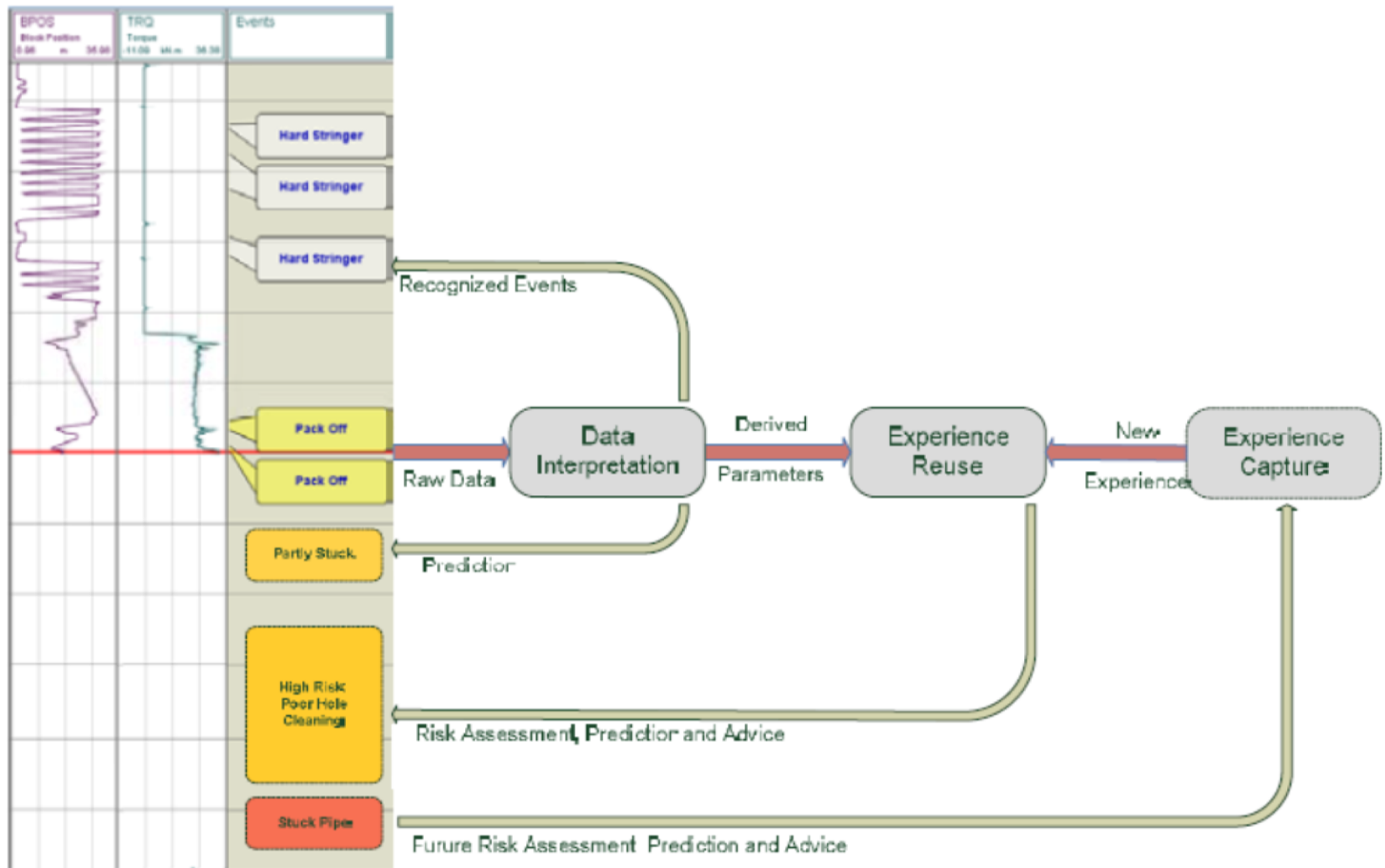


Figure 1. Excerpt from Volve system screen annotated with responsible method modules.

Case collection and interpretation

- ▶ Main decisions
 - Predictions of unwanted events on a short time scale
 - Predictions of unwanted event on a longer time scale, with advice on preventive actions

Case matching and reuse

- ▶ Initially, the cases are described manually
 - ▶ Automatic learning of new cases
 - ▶ Match with cases in the case base if above a certain threshold
 - ▶ Similarity threshold ladder
 - ▶ Cases contains
 - Numerical data
 - Symbolic data
 - Textual data
 - ▶ System learns from the advices given
- 