Risk Assessment

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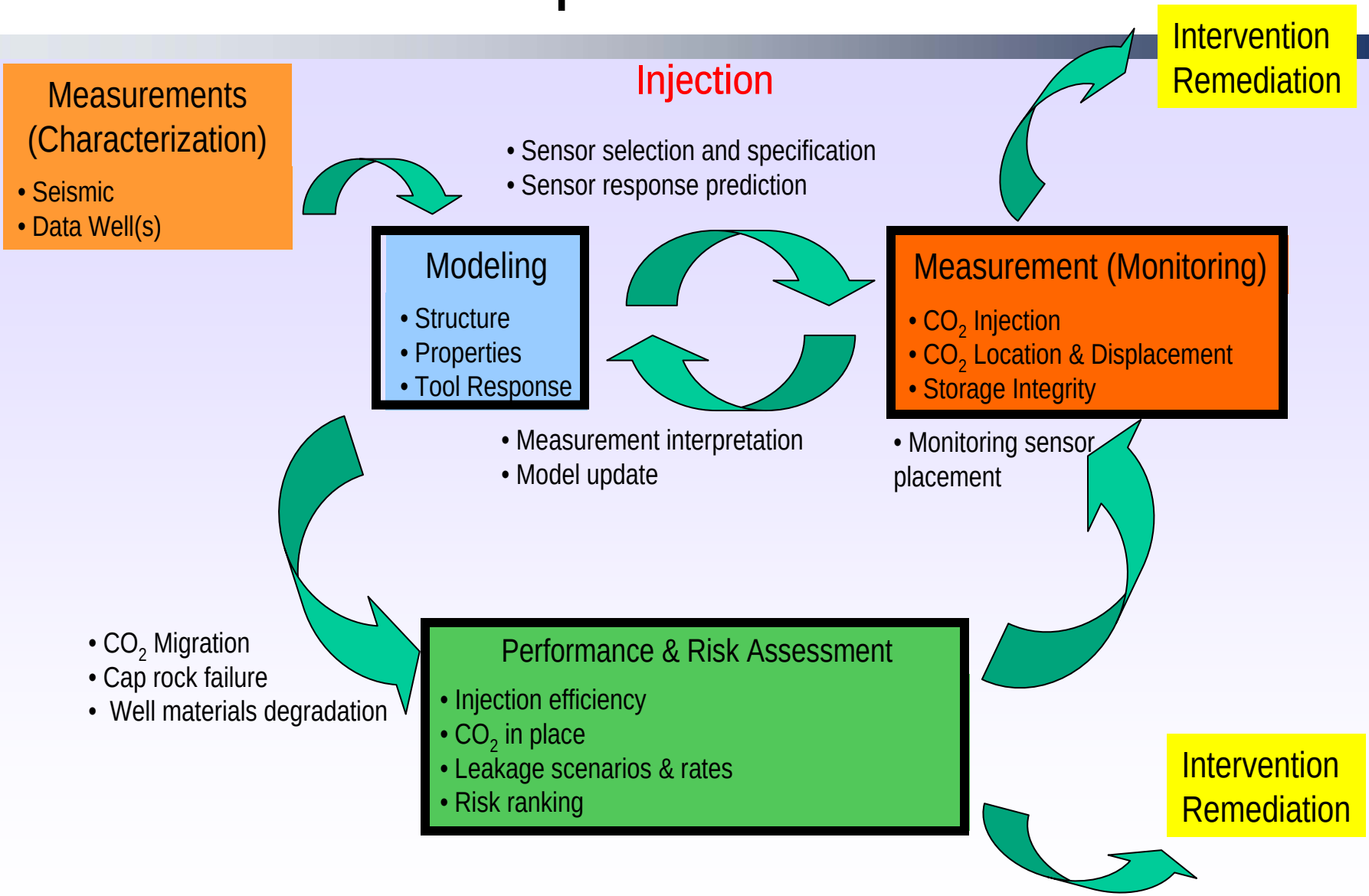
AWWA Webinar
Schlumberger Carbon Services
Dec 8, 2008

Thanks to Ken Hnottavange-Telleen for lending many slides

MVA is a iterative process



FEPs

- A **Feature** is a static attribute of a system.

  Example: Reservoir porosity.

- An **Event** is a sudden change in the system or its environment.

  Example: Lightning strikes the dehydration equipment.

- A **Process** is a way in which system attributes or conditions change in a relatively slow and progressive way.

  Examples:

  Injected CO_2 ...

  ... displaces formation brine near the injection well,

  ... migrates updip away from the injection well,

  ... partially dissolves into formation brine.

  Manufactured components ...

  ... decay and degrade over time, in various ways.

FEP concepts

• Any scenario involves multiple F's – E's – P's; one FEP may have multiple risks. There IS "redundancy" that minimizes the chance of overlooking an important risk.

• The Basic Questions

1) "If something went wrong related to this FEP ...
- How Severe would the impact be?
- How Likely is it that project values would be negatively impacted?"

2) "What are the specific risk targets, and how do we reduce risk to those targets?"

•Risk is defined as the product of the severity and the likelihood R=L*S

Features, Events, and Processes

FEP concepts

- Any part of a project includes multiple Features and Processes; might include an Event, too.
- Same with risks: they usually involve multiple FEPs.
- And one FEP may entail multiple risks. Therefore:
- FEP concepts DO create overlap.
- Conceptual overlap minimizes the chance of overlooking an important risk.

Key FEPs are used to construct scenarios

Quantitative risk/hazard assessment workflow of scenario approach