| CHALLENGE | ■ Improve exploration efficiency through enhanced collaboration and visualization technology  
             ■ Increase subsurface model quality  
             ■ Enhance geoscience decision making  
             ■ Alleviate traditional barriers between exploration and operations |
|-----------|---------------------------------------------------------------------|
| SOLUTION  | ■ Design and build collaborative geoscience facility  
             ■ Incorporate separate zones for collaboration and mentoring  
             ■ Implement user-friendly technology and onsite technical training  
             ■ Conduct ongoing consultancy engagement to maximize value and usage |
| RESULTS   | ■ Increased confidence in subsurface modeling and faster decision making  
             ■ Reduced drilling risk by incorporating real-time data feeds from rigs into subsurface models  
             ■ Collaborative technical review sessions based on live 3D model interrogation  
             ■ Accelerated knowledge transfer and learning between graduates and experienced professionals |

PetroSA's New Ventures Upstream division identified an opportunity to improve its exploration process efficiency using the latest collaboration and visualization technologies. A new Collaboration and Visualization Environment (CVE) would improve understanding of subsurface uncertainty and allow risk to be better quantified to enhance exploration, appraisal, and development decisions.

**Project scope**
Following an initial consultation and tendering process, Schlumberger managed the entire project—through design development, facility construction, fit-out, and implementation. During the commissioning phase, a management plan was written to introduce new ways of collaborative working, value-driven session management, and communications planning. Barco was selected as the display technology contractor, with local architects and construction contractors providing project engineering.

**Collaborative environment**
Through diligent project management, various technical challenges with the facility implementation were overcome. Schlumberger provided subsequent onsite technical training to PetroSA personnel to familiarize them with the new collaboration technology. The consulting team created three areas for working: collaboration, mentoring, and break-out zones. The CVE’s ergonomic design allows for multiple data feeds from six PC computers via a 5-meter wide solid glass screen, LCD wall, and SMARTBoard. Video conferencing is available for collaboration with investors, partners, and local surface-engineering facilities. Various internal lighting scenarios are available depending on the session type, all controlled by a wall-mounted touch panel.
CASE STUDY: Bespoke collaboration facility created to enhance real-time and subsurface decision making

PetroSA’s CVE is a catalyst for more informed exploration decisions based on live data, as well as improved quality assurance via more frequent and detailed collaborative peer reviews. The environment is also making a significant difference to the way PetroSA conducts geoscience technology training—accelerating knowledge transfer and learning between graduates and experienced professionals.

“Our new CVE has been named ‘Ulwazi’, an isiZulu word meaning ‘knowledge’; an apt name since its collaboration and visualization technology enables our multidisciplinary teams to visualize and interrogate multiple, often disparate, data sets much more efficiently to increase our knowledge of the subsurface environment. This leads to workflow and data process improvements, providing additional assurance that significant geotechnical decisions taken in the CVE have considered all available information.”

Andrew Dippenaar
Acting VP, New Ventures Upstream
PetroSA