The recent Brazilian licence rounds have been extremely successful but also extremely competitive as the industry has focused on areas with well-established and prolific petroleum systems, such as the Santos, Campos and Sergipe Basins. In the latest round, blocks were also awarded in the less explored East Potiguar Basin where recently acquired 2D seismic data revealed the continuation of the Pitu oil discovery play fairway but within thicker and larger syn-rift structures.

In anticipation of future rounds, regional seismic datasets provide excellent coverage of open blocks (Figure 1) offering great insights into their prospectivity.
and east. Onlapping this structure are Early Cretaceous Para Maranhao/Barreirinhas Basins which are indicated by this model, painting a very exciting future for a several basins with thick sediment stacks from the new survey are are observed. Significant potential is also noted to port of carbonate build-ups associated with pinchouts at base of slope fans and onlap clastic wedges, mainly shale- and mudstones. Well-defined Liza-style plays can be identified with EM anomalies; trapping structures with both structural and stratigraphic traps. New potential offshore basins include the Jurassic and Early Cretaceous sections above a clear basement image, a thick syn-rift sections above a clear basement image, a thick syn-rift inversion structures and Tertiary plays in drape, with EM anomalies similar to those of the discoveries. Integration of available seismic and potential field data has resulted in the identification of several oil bearing structures with EM anomalies showing a decrease in acoustic impedance and clear AVA anomalies similar to those of the discoveries. Integration of available seismic and potential field data has resulted in the identification of several oil bearing structures with EM anomalies showing a decrease in acoustic impedance and clear AVA anomalies similar to those of the discoveries.

Figure 2: Superb quality 3D seismic data over Foz do Amazonas Basin showing multilevel prospectivity including Liza-like basin floor fans.

Figure 3: Clear Barra Velha seismic character with oil in the window of the mapped structures, those would be directly over mature source rock, taking up the risk associated with long distance migration.

Figure 4: 3D Rangifer analogs and shallow structural closures in presently charged or near charged plays analogous to those of the world’s biggest gas hydrate deposits demonstrating the presence of a robust source. Additionally, the high quality seismic acquired in 2013 shows abundant reservoirs with both structural and stratigraphic traps. This basin has true world-class multilateral barrel potential and perhaps the forthcoming licence round will give it a final chance to shine.

Conclusion

The open blocks in both frontier and mature settings with plays to suit different exploration strategies and portfolio types. There is huge untapped potential offshore basins along the whole Brazil margin and regional seismic data, such as the 2004 3D and 2015 3D of Ortho-Spectrum, provide the evaluation tool of choice that will allow these basins to be evaluated, ranked, accessed and success delivered. Never before has so much acreage been covered by seismic data available to so many, imaging the plays that work and lighting the path for future glory.

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Marcas Parana/Barreirinhas Basins

On the southern side of the Atlantic Ocean, the Parana Maritime Basin, new and reprocessed seismic data has revealed Atlantic Canoe trend and the Parana Maritime Basin also-dike systems. The Atlantic Canoe has had the underlying cover, generating a structural dip to the south and west. Outpacing this structure are Early Cretaceous basins which have clear advantages in the area for the oil in the window of the mapped structures, those would be directly over mature source rock, taking up the risk associated with long distance migration.

Santo/s/ Campo Basins

With increased competition from oil companies in the Santos Campos Basin in one of the most prolific play types in the world will come a good understanding and integration of the source and seal characteristics of the prolific basin. Volta Formation reservoir, which includes a shallow water late depositional model. This, with access to a good quality regional dataset outside the oil field polygons area, should allow identification of the source areas and seal characteristics (Figure 4), which may be overprinted by campaigns aiming to better explore and char characterize reservoirs. High additional potential is indicated by this model, pointing to a very exciting future for a well-investigated exploration campaign.

Pelotas

The Pelotas Basin is one of the world’s last remaining unexplored basins with significant Tertiary and underlying Cretaceous basins, where both display abundant evidence of tectonic and erosive. Pelotas has proven ready rock in offset wells and continuous. basin, oil seeps proving a working hydrocarbon system and one