## *sasol technology expanded its research facilities and continued to advance new technologies*

***Focusing on other gas-rich regions*** *SSI and Sasol Chevron continue to engage in exploratory discussions with government officials and other key role-players in some of the world's other gas-rich regions, including Australia, the Middle East, and Trinidad and Tobago in the Caribbean. For example, the north-west coast of Australia has extensive gas reserves, some of which could be monetised through the Sasol SPD™ process. Sasol Chevron continues to work with officials from the Commonwealth of Australia and the state of Western Australia in order to advance this opportunity.*

***Striving to lower GTL costs*** *There are ongoing Sasol Technology development programmes in place aimed at developing smarter ways to reduce the capital and operating costs of GTL plants. These programmes include the optimisation of designs, the improved utilisation of reactor systems and the ongoing advancement of specialised base-metal Fischer-Tropsch catalysts.*

*The combined factors of GTL diesel's superior characteristics and the prevailing market conditions in developed economies will enable GTL products to initially command premium prices for either niche applications or as a blend stock for upgrading off-specification products.*

*In keeping with Sasol's extensive experience in developing, operating and upgrading Fischer-Tropsch production units in recent decades, we aim to be the market leader in the emerging GTL industry. Sasol is committed to new investments in Fischer-Tropsch production capacity with the conviction that real operational experience remains the platform upon which to further improve our existing technologies and to develop those of the future.*

## *Sasol Technology*

- ***Drive to lower GTL capital and operating costs.***
- ***Expansion of R&D facilities is progressing.***
- ***Successes in advancing chemical portfolios.***
- ***Record number and value of projects under management.***

***Modernisation of R&D facilities is progressing*** *The phased expansion and modernisation of the Sasolburg R&D facilities is progressing. The first two of three phases have been completed. A R24 million expansion of the R&D laboratories and offices was also completed as part of this investment. The R&D expansion and modernisation programme is being undertaken to:*

- *enhance the infrastructure to enable the future installation of new pilot plants in order to expand operational efficiency and flexibility;*
- *allow the relocation, upgrading and full integration of existing pilot plants;*
- *install modern process control systems; and*
- *improve the information generated.*

*This programme was initiated after completing a comprehensive exercise to benchmark the structure, equipment and performance of our R&D facilities against those of other international organisations. The enhanced facilities will create the opportunity to commercialise new and improved petrochemical processes more effectively.*

*A semi-works wax hydroprocessor was also commissioned and has been linked to our established 100 bbl/d Fischer-Tropsch demonstration unit. It will be used to demonstrate hydroprocessing catalyst performance and to produce, from mixed wax and light-hydrocarbon streams, a GTL diesel for fleet testing.*

***Catalyst research continues to advance*** *While its core R&D focus areas remain largely unchanged, Sasol Technology is enhancing its competencies in homogeneous catalyst research. The development of higher-performing homogeneous catalysts is integral to Sasol's ability to enhance its competitiveness.*

*In advancing new-generation, base-metal Fischer-Tropsch catalysts, we are confident that the most recent bench-scale laboratory tests have indicated sufficient success to justify scaling up our technology for pilot-plant trials over the next two years. We continue to advance the development of proprietary catalysts for our low- and high-temperature Fischer-Tropsch processes.*

***Fischer-Tropsch activities target cost reduction*** *The primary objectives in developing our next generation of GTL plants and catalysts are to lower capital and operating costs, and to optimise yields and selectivity, thereby advancing the competitiveness of our GTL technology at a time when global demand for cleaner fuels and affordable process technologies is increasing. The GTL programme covers process design, economy of scale, process integration and new-generation catalysts. The appointed teams are achieving excellent progress in their pursuit of ambitious targets.*

*The Sasol R&D group at Twente in the Netherlands is working in the field of fundamental modelling as part of a wider effort to develop the next generation of low-temperature Fischer-Tropsch Slurry Phase reactors for use in the integrated, three-step Sasol SPD™ process. The R&D progress at Twente University over the last two years has been sufficient to justify pilot-testing new process concepts at Sasolburg.*