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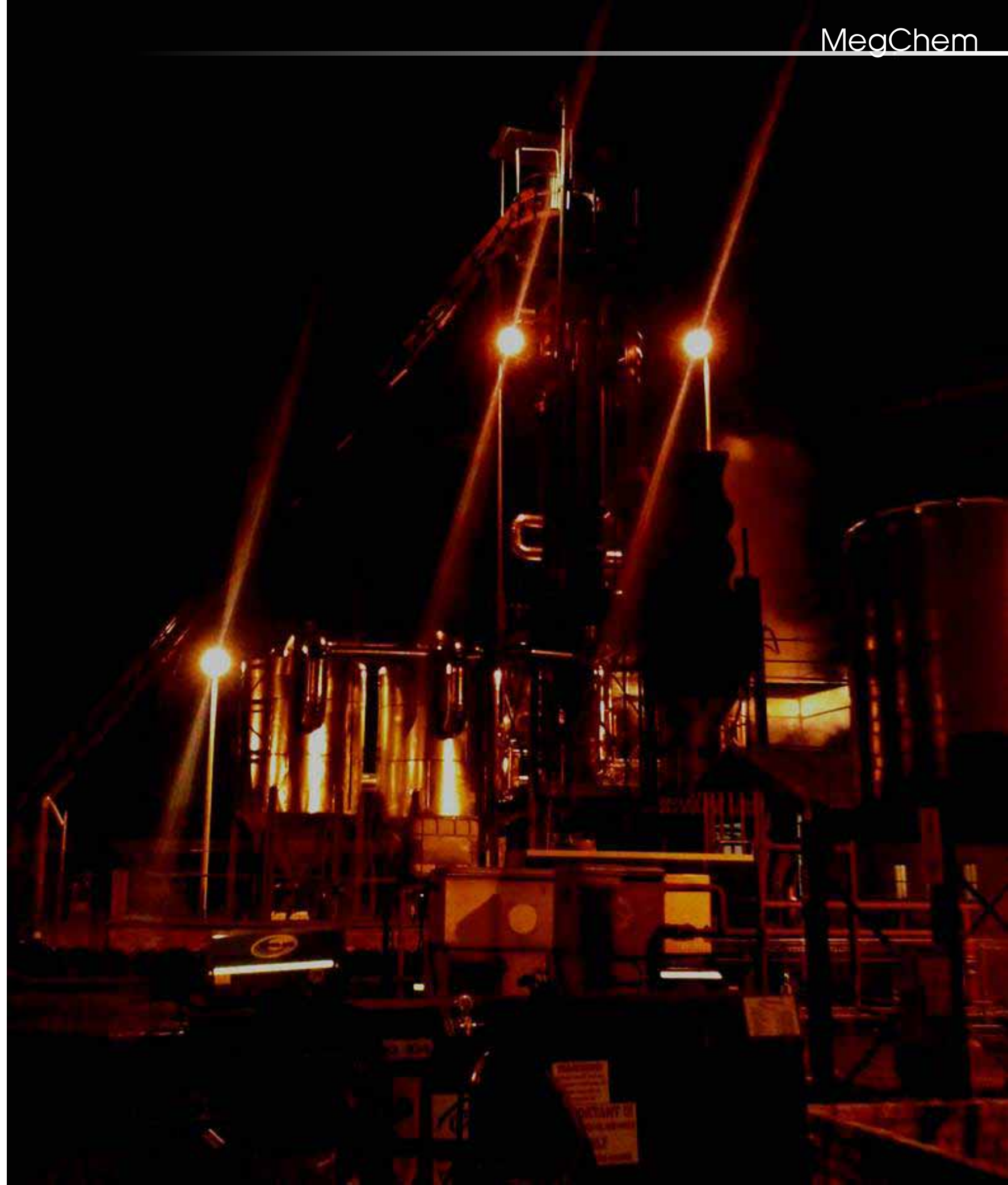
Rising to the

challenge

August Zerwick, managing director of South Africa-based engineering solutions provider MegChem, talks to Jayne Alverca about the company's unique approach to managing complexity



MegChem has been providing engineering services to the oil, gas, power generation and energy related industries for almost 20 years. The company, which is headquartered in Secunda, South Africa, specialises in offering turnkey solutions from the design and planning phase through to on-site commissioning of finished equipment. It also provides the physical infrastructure to support consultancy by making use of sub-contractors and suppliers with whom it has longstanding relationships in place.





Managing director August Zerwick believes the time is now ripe to leverage the unique set of competencies the business has developed to make a bigger impact on the global stage. In 2009, a buy-back of shares sold to Grinaker-LTA a decade earlier took place, which has supported a new strategic focus on small but highly complex engineering, procurement and construction (EPC) projects. “We wanted to grow the business, which has implications for our risk profile, and we had also identified the benefits of a very clear phased approach whereas they preferred a more integrated model, so it made sense to separate. This has given us much greater freedom to take the business forward,” he explains.

MegChem’s core competency is now managing complexity; and the company has found a niche competing with international players for small but challenging EPC projects where its attention to detail and managing the project lifecycle gives a unique opportunity to deliver value to both partners. From a monetary point of view, these projects may be relatively small, but they are high value because of their complexity and due to the benefits that they have towards ensuring the client’s plant operating efficiently. “We are frequently called on to solve the most challenging problems in industry with constraints that vary from tight schedules, extremely harsh operating environments to working on live equipment,” he continues.

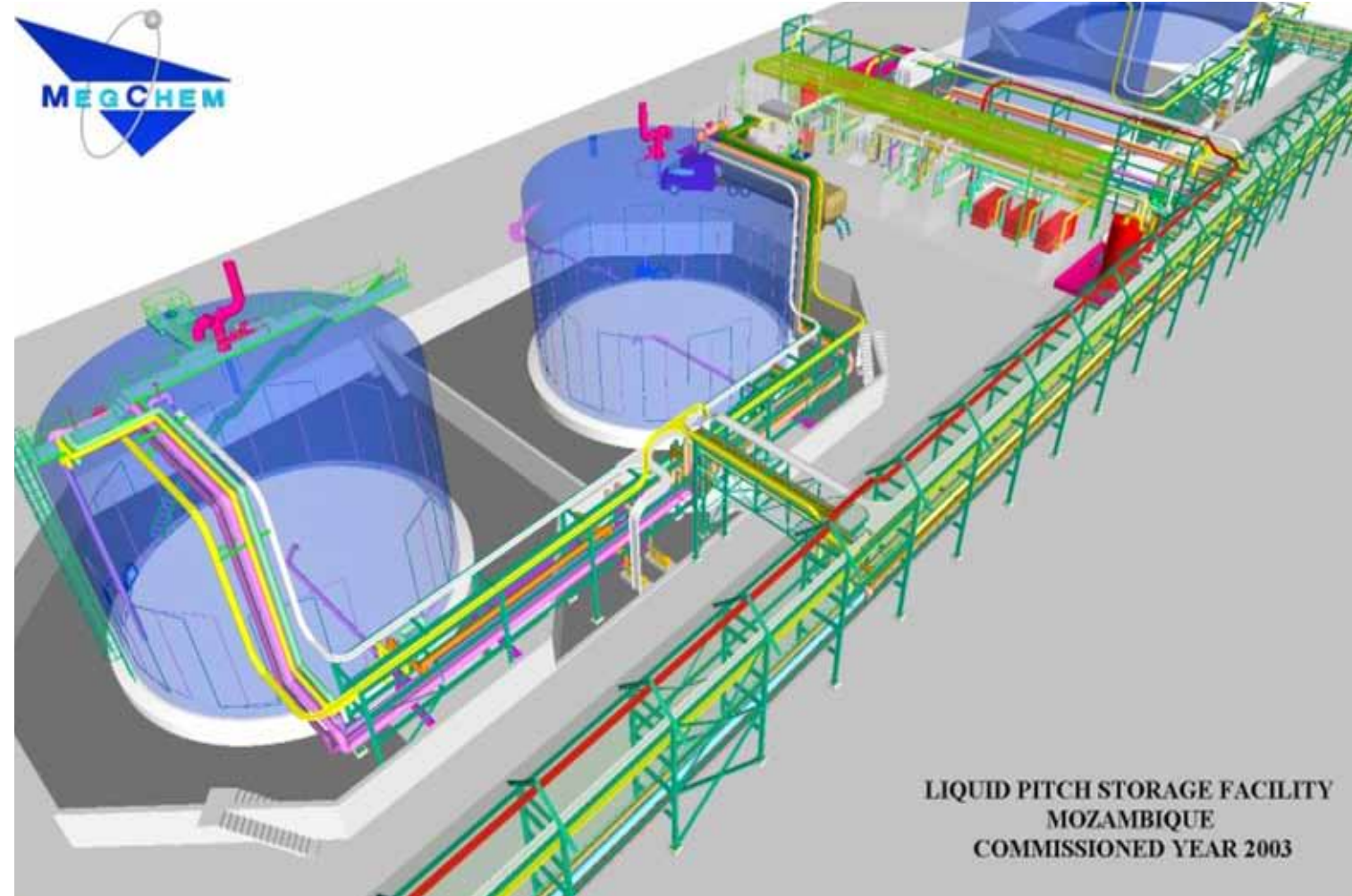
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Years of working in a traditional petrochemical environment has enabled MegChem to evolve a very specific engineering methodology to tackle complex projects. “We can also design and implement projects with clients and third party inspection agencies across a wide range of industry standards and benchmarks,” Zerwick says. “During the operational life of a piece of equipment, defects and corrosion inevitably occur and in order for the client to continue their operations, it must usually be modified and repaired according to clearly defined standards. In some instances though, guidance is totally lacking and we have developed a very comprehensive approach using tools such as finite element analysis and our own in-house methodologies to define an optimum solution.”

A one-stop turnkey solution means that MegChem has the in-house engineering capability to provide a

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client with a total solution, including feasibility studies and conceptual engineering right through to detail engineering and construction and commissioning. The phased approach which is favoured allows for a systematic appraisal of concepts, strategies and

Conceptual engineering is divided into concept development and concept selection: concept development involves developing ideas and options with the objective of ensuring that all alternatives have been



business opportunities at each distinct project phase. For example, after the feasibility of a project is established, the project will enter the conceptual phase. This will develop a solution that can be taken forward to the basic engineering phase.

identified and developed; and concept selection involves studying, screening and re-analysing options until a concept can be selected for further processing and refinement during basic engineering.



processes. Nuclear power will make a major contribution to South Africa's energy security in the future; and it is an area where MegChem has already developed considerable experience working on the helium testing facility as part of the PBMR project.

"In South Africa, we want to integrate upstream and build on the significant track record we have already achieved, particularly in the support we can provide with the local manufacturing of key components. Over the years we have formed a very close relationship with the fabricators and constructors who are also critical to project delivery; and we can take on the day-to-day management of even the most complex and challenging projects," he concludes. www.megchem.co.za



During basic engineering the selected concept is optimised and a blueprint of the proposed solution is developed. A key output of this phase is a basic engineering package (BEP), which defines all process details of the project. In MegChem's experience, a well-developed BEP is one of the most significant contributors to success.

"The key issue for our clients is that they want to maximise the value they derive from engineering partners and of course, minimise the cost. Our approach contributes to these objectives in several ways. Treating the design phase as a discrete element in particular allows us to thoroughly consider all possible scenarios. Overall, we achieve a much better match with client expectations and the financial implications are very clear at each stage. There are no unpleasant surprises and we can be very transparent in the way we share costing information."

Across all industries, Zerwick perceives a growing trend to seek out greater plant reliability, reduced downtime and above all, maintain a safe working environment for staff.

"To achieve this, we are seeing the relationships we maintain with clients becoming closer and more transparent. Technological advance means that equipment can be designed to be up and running for much longer and this means new expectations of our performance. We have become partners in every sense in ensuring the smooth day-to-day running of their operations."

Zerwick believes that the company's strength in generating productive working partnerships now offers significant opportunities to take its services further afield. MegChem currently operates from four locations in South Africa, but its reach is already much further. The company has supported a number of Australian enterprises and has also worked in Gabon, Nigeria, Angola, Botswana, Mozambique and the Middle East. "We have a particularly strong footprint in the Middle East where we have ongoing relationships in engineering consultation and metallurgy," he adds, saying there is no reason why MegChem should not replicate elsewhere the business model that has been applied in South Africa.

However, although the main focus is on geographical expansion, Zerwick is also evaluating opportunities in supporting new sectors such as nuclear power generation



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