

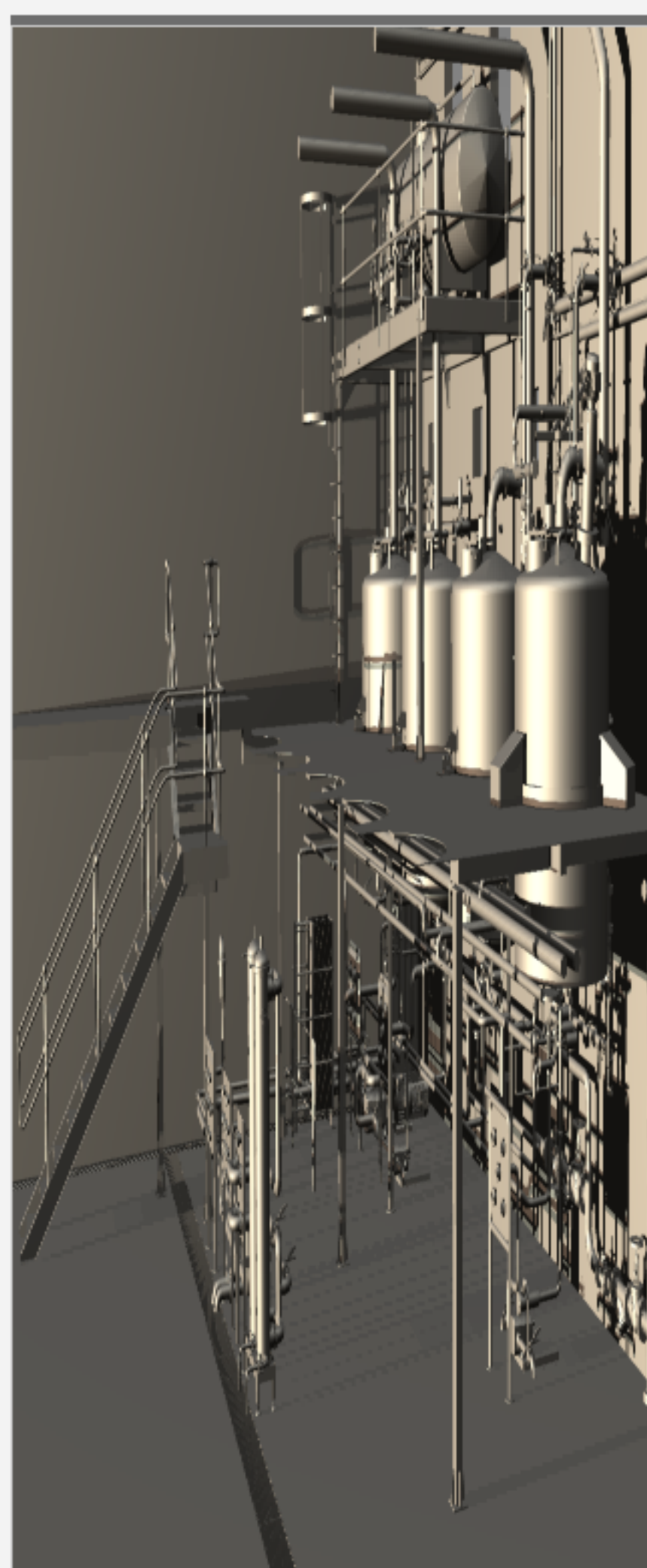


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HEAT RECOVERY SYSTEM A computer-aided design layout of a heat recovery system designed for a chocolate factory in Cape Town

Supplier notes growing demand for energy, heat efficiency

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By: **Gia Costella** 3rd August 2012

Rising energy costs, paired with demand for renewable-energy sources, have spurred growing demand for energy recovery through the efficient use of heat exchangers, says transfer, fluid separation and sanitary fluid-handling design and supply company Mechinox South Africa (SA) owner and chief engineer **Forrester de Beer**.

"Energy recovery is not a new idea, but with new technology and efficient heat-exchanger designs emerging in the market, energy recovery is becoming an attractive option for many businesses," he says.

He adds that, over the past year, Mechinox SA has invested significantly in advanced technology and software packages that enable it to size heat exchangers for any application, using finite element analysis (FEA) and computational fluid dynamics (CFD).

"Using FEA and CFD, we design and size heat exchangers to our customers' exact requirements. "We have clients from various industries and currently have energy recovery systems running in food, chemical and industrial plants, and even in the marine industry.

"Many manufacturing and processing plants have sources of waste energy, such as waste heat leaving a chimney stack. We can recover this energy by means of efficient heat exchangers and use it for heat processes or as input heat for heat pumps, for example," explains De Beer.

He notes that new automation and measurement systems are also driving energy recovery through intelligent energy management systems, like a system that recovers waste heat from a building.

"Waste heat recovery can potentially save hundreds of megawatts of power for energy-intensive industries. "The challenge is what to do with the energy once it has been recovered and this is where innovation comes in.

"Typically, high-grade heat recovered from these industries can be used for processes like driving power-generation equipment and turbines, which can then deliver energy back to the national grid," he states, adding that this benefits not only those industries but also the country as a whole.

Future Outlook
The company, which is the South African agent for Swedish separation, heat transfer and treatment and fluid-handling equipment manufacturer Alfa Laval, plans to continue expanding its heat- and energy-recovery equipment base with new systems.

"As energy costs increase, so will the demand for heat- and energy-recovery systems. "We plan to increase our offering and ensure we keep up with demand," De Beer says.

Mechinox SA does, however, face one challenge with regard to its energy recovery work, he notes.

"We rely on our clients to give us accurate information and data when designing a system. Getting the correct data and information has been challenging at times."

Edited by: **Chanel de Bruyn**

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