

PRESS RELEASE

hte bolsters Hanwha's efforts to construct a sustainable chloro-alkali value chain

HEIDELBERG, Germany [October 5, 2021] hte – the high throughput experimentation company signed a contract with Hanwha Solutions to provide research services for the Korean material-to-energy solution provider's relentless efforts to achieve sustainable growth. The agreement involves testing the Korean company's catalyst with its German counterpart's proprietary technology to construct a sustainable catalytic process in the chloro-alkali value chain. It is expected to showcase Hanwha Solutions' carbon-neutral technology with catalyst screening against various parameters and data production for a commercial unit.

hte has successfully carried out such carbon-neutral catalytic processes in a parallel 16-fold reactor system under relevant operating conditions, which entails the handling of HCl and catalyst systems such as powder and shaped material. **With hte's advanced high throughput technology and application expertise, its collaboration with Hanwha Solutions is expected to build a sustainable chloro-alkali value chain.**

"After thorough market evaluation to identify an efficient and robust technology, considering the challenging corrosive medium, we have selected hte's technology because of its proven expertise in catalysis, kinetic studies and process development. With the implementation of high throughput technology combined with efficient, fast online analytics and a fully integrated software solution, we have been able to significantly enhance our R&D output in comparison with conventional screening," says **Dr. Jae Hyung Kim, head of Catalyst R&D Center at Hanwha Solutions Corporation.**

Wolfram Stichert, CEO at hte, comments, "We are delighted to have been able, through this collaboration with Hanwha Solutions, to contribute to this sustainable catalytic process

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in the chloro-alkali value chain optimization, a technically very challenging task - especially in high throughput mode. We are very pleased with the outcome of this project and look forward to strengthening our collaboration with Hanwha Solutions in future R&D projects.”



Figure 1: 16-fold high throughput system customized for HCl chemistry

About Hanwha Solutions

Hanwha Solutions aims to deliver sustainable solutions for the planet through smart energy solutions and customer-focused materials.

The Company operates its business through five divisions: Q CELLS (photovoltaics), Chemical (chemicals), Advanced Material (materials), Galleria (retails) and City Development (real estate).

The Chemical Division was the first in Korea to produce polyvinyl chloride (PVC) and other petrochemical products crucial to various industries. The Q CELLS Division offers comprehensive energy solutions from photovoltaic module manufacturing, power plant operation to electricity retailing service. The Advanced Materials Division produces lightweight composite materials designed to usher in the future of mobility. The Galleria Division provides high-quality fashion and food culture with its operation of a premium department store chain. The City Development Division is a leading real estate developer specializing in building industrial complexes.

With its innovative technology for sustainable growth, Hanwha Solutions strives to become a global leader in bringing a better future for humanity.

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About hte

At hte – the high throughput experimentation company, we make R&D in the area of catalysis faster and more productive. We enable cost-effective innovations and reduced time to market for new products, thereby allowing our customers in the energy & refining, chemical & petrochemical, and environmental industries to keep ahead of the competition.

Our technology and services comprise:

- **R&D Solutions:** highly efficient contract research programs at hte's state-of-the-art laboratories in Heidelberg, Germany
- **Technology Solutions:** integrated hardware and software solutions, enabling our customers to establish high throughput workflows in their own laboratories.

Our customers benefit from broad technical and scientific expertise, exceptional customer orientation, complete end-to-end solutions, and outstanding data quality. Our close ties with BASF guarantee long-term orientation and stability.

For more information, visit our website www.hte-company.com.

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