

World Cities Summit, Singapore, July 8-12, 2018

Siemens software solution helping cities improve air quality

- **City Air Management captures pollution data in real time and forecasts emissions up to five days in advance**
- **Solution simulates effectiveness of measures for improving air quality**
- **Siemens and Sino-Singapore Guangzhou Knowledge City plan to jointly deploy and enhance this software solution as world's first implementation**

A new software solution is helping cities remedy the growing problem of air pollution and the associated lack of compliance with emission-control thresholds. Siemens presented City Air Management (CyAM) at the World Cities Summit in Singapore. CyAM is a cloud-based software suite with a dashboard that displays real-time information on the air quality detected by sensors across a city and predicts values for the upcoming three to five days. These air-quality forecasts are prepared with the aid of algorithms that tap into an artificial neural network and draw on historical and current data on air quality as well as weather and traffic patterns. Mayors and other decision-makers can then use this data and a combination of potential solution measures to derive concrete recommendations for action and define measures that help reduce concentrations of nitrogen oxides and atmospheric particulate matter.

“Data are really just raw material. They unleash their full potential only when we collect them correctly, analyze them correctly, draw the correct conclusions from them and simulate and run through the resulting options,” said Roland Busch, Chief Technology Officer and member of the Managing Board of Siemens AG. “This is what makes City Air Management such a unique software solution. It is currently the smartest tool available for cities that want to improve their air quality.”

CyAM can, for instance, use the data acquired by sensors to recommend a selection

of actions chosen from a set of 17 measures that can be implemented at short notice in order to improve air quality. Examples of such measures include establishing low-emission zones, reducing speed limits and offering local public transportation services at no charge for a limited period. Cities can subsequently integrate insights gained from these actions into their medium- and long-term strategy planning. CyAM is based on MindSphere, Siemens' cloud-based, open operating system for the Internet of Things.

Siemens signed a Memorandum of Understanding (MOU) with Sino-Singapore Guangzhou Knowledge City Investment and Development Co., Ltd.(GKC Co) and Ascendas-Singbridge today to kick start the CyAM solution, through a joint development of the Green City Digital Platform in Sino-Singapore Guangzhou Knowledge City (SSGKC). Located at the heart of the Pearl River Delta district, SSGKC is to be developed as a vibrant hub that appeals to global talent in the knowledge economy, and will have a population of 500,000 people within the next 15 to 20 years.

The Green City Digital Platform is a software management and digitalization platform that utilizes big data analytics and artificial intelligence to provide customized and economically feasible solutions for sustainable urban development and air quality control, in line with SSGKC's urban planning policies and requirements.

Both GKC Co and Siemens will also be exploring the establishment of The Siemens Green City Digital Exhibition Center in Ascendas OneHub GKC, an integrated business park within SSGKC. The first of its kind in Asia Pacific, the Siemens Green City Digital Exhibition Center will provide real-time air quality monitoring on a short-term and mid to long-term basis, as well as assessment, impact prediction, and recommending of technology measures. The center will also showcase the implementation and management of SSGKC's plans to become a sustainable and eco-friendly city. The center will occupy an area of approximately 250 square meters, and is expected to complete in early 2019.

Nina Yang, Ascendas-Singbridge's Chief Executive Officer for Sustainable Urban Development and Chairman of GKC Co, said: "SSGKC is a leading model in the

adoption of smart and green technologies, making it a strategic platform for companies such as Siemens to showcase new solutions. Such initiatives will also help SSGKC further advance our innovation-led approach, bringing us one step closer to achieving our vision of being a sustainable, knowledge-based city, harnessing solutions from the digital economy.”

This press release is available at www.siemens.com/press/PR2018070230COEN

Find further information on the topic here: www.siemens.com/wcs2018 and www.siemens.com/cities

Contact for journalists

Stefan Wagner

Tel.: +49 89 63621561; e-mail: sw.wagner@siemens.com

Follow us on Twitter: www.twitter.com/siemens_press

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for 170 years. The company is active around the globe, focusing on the areas of electrification, automation and digitalization. One of the world's largest producers of energy-efficient, resource-saving technologies, Siemens is a leading supplier of efficient power generation and power transmission solutions and a pioneer in infrastructure solutions as well as automation, drive and software solutions for industry. With its publicly listed subsidiary Siemens Healthineers AG, the company is also a leading provider of medical imaging equipment – such as computed tomography and magnetic resonance imaging systems – and a leader in laboratory diagnostics as well as clinical IT. In fiscal 2017, which ended on September 30, 2017, Siemens generated revenue of €83.0 billion and net income of €6.2 billion. At the end of September 2017, the company had around 377,000 employees worldwide. Further information is available on the Internet at www.siemens.com.