NEEDHAM, MA; 7 December, 2009: PTC (Nasdaq: PMTC), The Product Development Company®, today announced that China Railway Siyuan Survey and Design Group Co., Ltd. (Siyuan), one of the largest survey and design organisations in China, has successfully deployed Mathcad®, PTC’s engineering calculation software, as its standard platform for bridge design. With the deployment, Siyuan has significantly improved its design efficiency and engineering calculation collaboration.

Founded in 1953, Siyuan is one of China’s largest organisations responsible for conducting survey and design, as well as R&D for railway and related infrastructure. Some of Siyuan’s notable projects include the Jingjiu Railway, also known as the Beijing-Kowloon Line - the longest railway in China’s history; the Zhengzhou Station, the biggest railway hub in Asia; the Dayao Mountain Tunnel, the longest two-way electronic rail tunnel in China and Guangzhou - Shenzhen high-speed railway, the first high-speed railway line project with the largest investment and the most advanced technologies. Siyuan owns project survey, design, environmental evaluation, consulting, contracting, supervision and other ten A-grade specialty qualification certificates. Building upon its successful achievements, Siyuan plans to grow into an international engineering company.

With the shortening of overall railway design cycles, railway construction has entered a new phase where bridge construction accounts for a higher proportion of time than railway bed construction. As a result, new railway bridge structures with higher quality requirements create more complex engineering design demands for engineers. As an example, in the Beijing-Shanghai High-Speed Railway that Siyuan is designing, over 80% of the railway length is made up of viaduct, and involves a large amount of new and special structure designs and tremendous calculation work. In order to manage structural analysis challenges and sophisticated drawing tasks, the Bridge Department of Siyuan has developed and introduced different kinds of calculation software and CAD systems. To further enhance its design capabilities, Siyuan needed a solution that would provide powerful, automated calculation capabilities, as well as flexibility. After a thorough marketing research and technology cost comparison, Siyuan selected Mathcad to perform bridge design calculations.
Mathcad has revolutionised traditional inefficient, high error rate and non-revisable manual calculations with a dynamic calculation platform to share and document engineering calculations, enabling information reuse. Additionally, Mathcad can integrate with other project application software, thus eliminating repetitive work for engineers, greatly lowering error rates, shortening design cycles and reducing labour costs.

Huang Wei, head of software sector, bridge department, Siyuan; said, “The deployment of Mathcad has significantly elevated our engineering calculation accuracies. Previously, as the detailed designs of newly-built railway bridges are very complicated, they required manual calculation to break down and simplify complex engineering calculations, which consequently resulted in extra time and costs. Mathcad allows us to eliminate this bottleneck. We are now able to solve every engineering calculation given the mathematical expression no matter how complicated it is.”

We are very pleased that China Railway Siyuan Survey and Design Group has engaged PTC and selected Mathcad as its standard design tool,” said Jake Simpson, General Manager, Mathcad Business Unit, PTC. “Mathcad’s highly intuitive calculation environment helps engineers to solve complicated calculation problems, captures engineering calculation IP, improves design timeliness, and increases results accuracy. It ultimately drives innovation through faster product development, and higher quality design.”

About China Railway Siyuan Survey and Design Group Co., Ltd
China Railway Siyuan Survey and Design Group Co., Ltd is one of China’s largest organizations responsible for conducting survey and design, as well as R&D for railway and related infrastructure. During the recent years, it has been ranked among the top few of the Top 100 list of China’s survey and design organisations. It has carried out survey and design for 51,000 kilometers of railway and 20 large-scale railway hubs, which together accounts for one-third of China’s railway design work.

About PTC
PTC (Nasdaq: PMTC) provides discrete manufacturers with software and services to meet the globalisation, time-to-market and operational efficiency objectives of product development. Using the company’s PLM and CAD solutions, organisations in the industrial, High-Tech, Aerospace and Defence, Automotive, Retail and Consumer and Medical industries are able to support key business objectives and create innovative products that meet customer needs and comply with industry regulations.

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