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31st Edition of the World's Leading Trade Fair for Construction Machinery,  
Building Material Machines, Mining Machines, Construction Vehicles and Construction Equipment  
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[www.bauma.de](http://www.bauma.de)



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**Press Release**

**bauma – the showcase for innovations**

## **New ideas in transmissions for wheeled loaders**

- **Government-funded project develops “green wheeled loader”**
- **Power-split transmissions gaining ground**

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Low-emissions, low fuel consumption and energy-efficient: All these qualities are becoming ever more important to the building industry and to manufacturers of construction machinery. So, what progress has been made? What new developments are there, and what can these machines still do? Less or more? Answers to these questions will be given at bauma, the World's Leading Trade Fair for Construction Machinery, Building Material Machines, Mining Machines, Construction Vehicles and Construction Equipment, which takes place from April 11 to 17, 2016 at the Messe München exhibition center.

Since the introduction of the Exhaust Emissions Directive in 1999 the construction machinery industry has drastically reduced the emissions from its products. According to the German Engineering Federation, the VDMA, emissions of nitric oxide and diesel particulates have been reduced by more than 95 percent. Joachim Schmid, Managing Director of the VDMA's Construction Machinery and Building Materials Machinery Association, describes the status quo: “With the aim of optimizing energy efficiency and obtaining the best possible work result, these days construction machines decide for themselves what is most economical in a particular work process: to transfer the power to the wheels mechanically or hydraulically. The drive chain delivers only as much power as is needed, energy is stored and delivered as required. And for years the eco mode has been standard in many types of machinery.”

Despite what has already been achieved, there is still scope for further improvements to transmission systems in construction machinery – especially

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when manufacturers and suppliers combine their expertise. This was the case in the TEAM project (development of technologies for energy-saving transmission systems in mobile machinery), which culminated in spring this year with the presentation of a “green wheeled loader”. For three years 18 machinery manufacturers and suppliers – among them Caterpillar, Danfoss, Deutz, Hydac, Liebherr and Rexroth Bosch – five university institutes and the VDMA worked on an innovative operating strategy for linking parts of the drive system.

A demonstration wheeled loader was presented which combines an optimized diesel engine, a powersplit transmission system, displacement-controlled working hydraulics and a hydrostatic hybrid system in a new drive chain. In comparison to a current series machine this new development is over ten percent more fuel-efficient in practical operation. At bauma further information and details about this development will be presented live in the “Research Initiative” in Hall B0.

Special power-split transmissions are definitely gaining ground in wheeled loaders. Prof. Dr.-Ing. Marcus Geimer, Chair in Mobile Machinery at the Karlsruhe Institute for Technology, comments: “In a wide variety of operations, these transmission systems deliver improved efficiency as compared to hydrostatic transmissions or switchable converter drives.” Geimer reports that corresponding prototypes and designs have already been presented at various specialist conferences. “Now I am keen to see which manufacturers will showcase these components at bauma 2016,” he says.

**Further information: [www.bauma.de](http://www.bauma.de)**

#### **About bauma**

bauma is the world’s leading sector event for construction machinery, building material machines, mining machines, construction vehicles and construction equipment. With a total exhibition space of 605,000 square meters, bauma is also the largest trade show in the world. In 2013 bauma broke all previous records, attracting a total of 3,421 exhibitors from 57 countries, and 535,065 visitors from over 200 countries. bauma takes place every three years in Munich; the dates for the next edition are April 11 to 17, 2016.

#### **Construction machinery trade shows of Messe München**

Organizing trade shows for the international construction machinery sector is a core competence of Messe München. Its portfolio includes not only the world’s leading trade show, bauma in Munich, and the brand event bauma China in Shanghai – it also

cooperates with the Association of Equipment Manufacturers (AEM) in the organization of BAUMA CONEXPO INDIA in Gurgaon/Delhi and BAUMA CONEXPO AFRICA in Johannesburg.

### **Messe München**

Messe München is one of the world's leading trade-show companies. It organizes some 40 trade shows for capital and consumer goods and key high-tech industries in Munich alone. 14 of those events are number 1 in the world in their respective industries. Each year more than 30,000 exhibitors and some two million visitors take part in events held at the Messe München trade-fair center, the ICM – Internationales Congress Center München and the MOC Veranstaltungszentrum München. In addition, Messe München International organizes trade shows in China, India, Turkey and South Africa. Messe München has a global business presence with affiliates in Europe, Asia and Africa and more than 60 foreign representatives serving more than 100 countries.