

**H**amburg is an important place on the forklift industry map. First, of course, it is the home of two major manufacturers: Jungheinrich and Still. Then, there is the Helmut Schmidt University with the professorship for machine components and technical logistics (MTL), which is deeply involved in the improvement of forklift technology. All three organise the Forklift Congress, which takes place every two years.

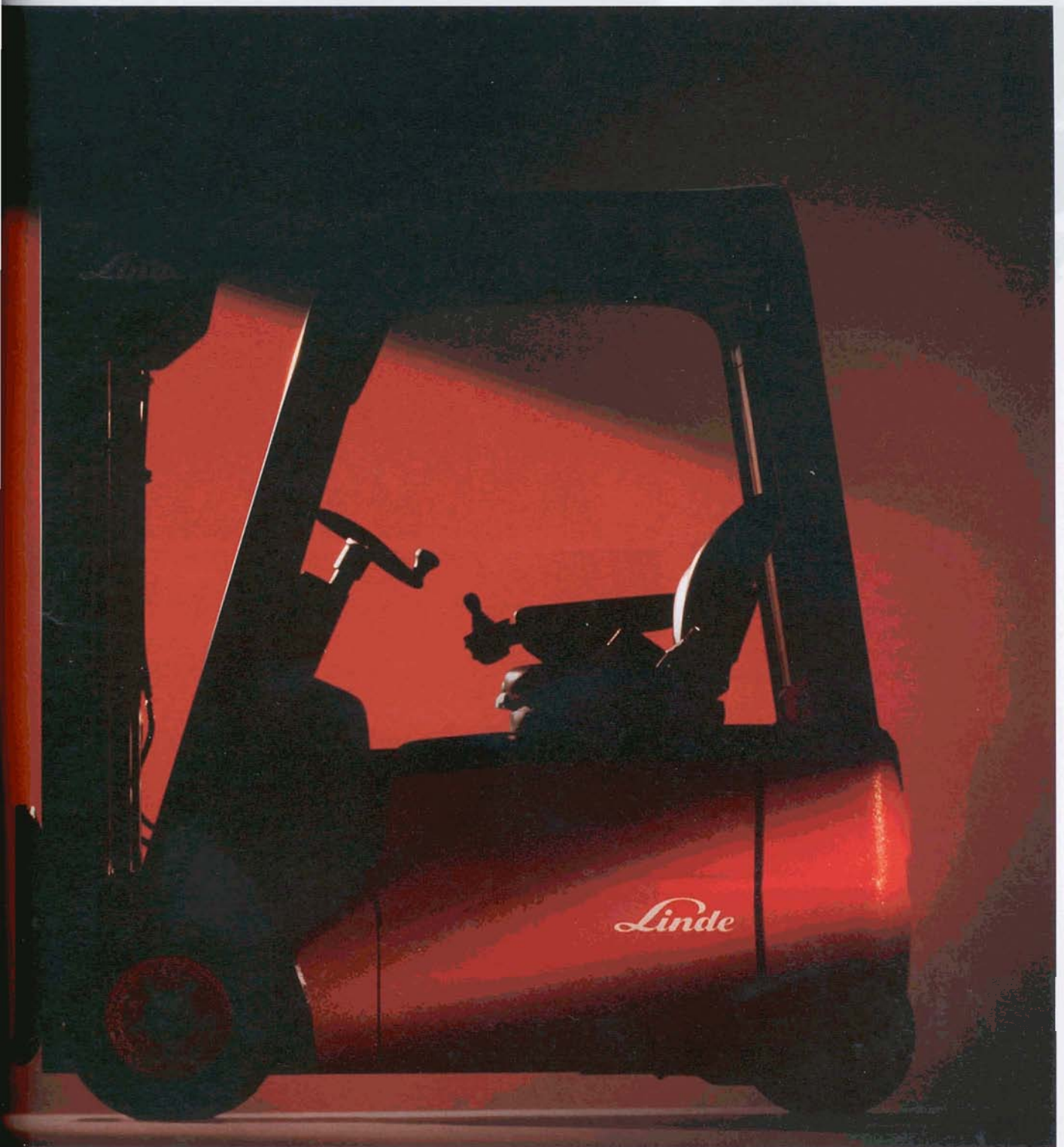
The Congress programme provided a good survey of new trends in the forklift industry. From methods of engineering to interesting new components and insights in the application of forklifts in production, retail and logistics: it might be that mix that attracts many insiders of the forklift business.

With more than 300 participants, the 2006 event was a record-breaker, and it is likely that delegates were not disappointed: after each of the 10 speeches, there was the possibility of an intense discussion with the speaker in a different room, while the programme continued in the auditorium. During



# IN THE SPOTLIGHT

The 2006 Forklift Congress in Hamburg was the place to be if you wanted to get an indication of how RFID, fuel cells and much more could affect the direction of the lift-truck industry



the breaks, participants could visit the laboratory of the MTL where they could experience, for instance, a forklift simulator and get acquainted with new safety devices for forklifts that might soon begin series production.

#### Further growth expected

The weather was fair in Hamburg and so are the economical conditions for the forklift manufacturers and their suppliers. Dr Stefan Rinck, Linde Material Handling's speaker, presented

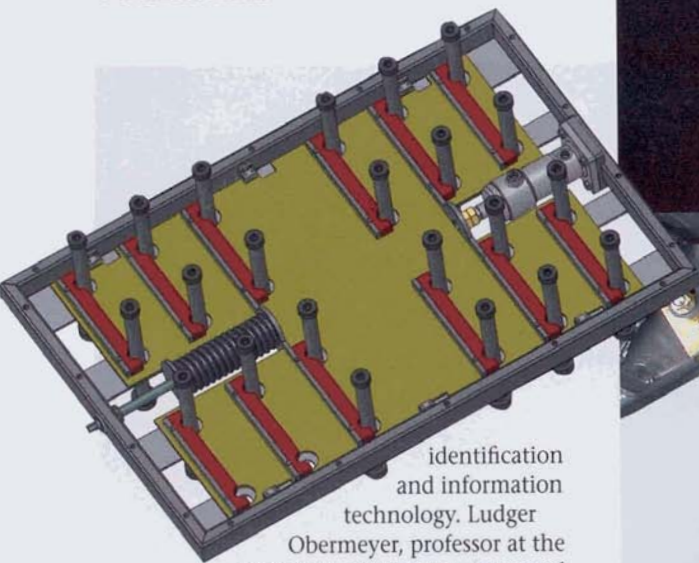
forecasts for industrial regions of the world, which came to the reassuring conclusion that the forklift industry will grow considerably in the next few years. In Asia alone, the sales figures for warehouse equipment, and electrical as well as IC counterbalanced trucks should grow by 19-27%.

And fears concerning the forklift-less production site, which were, a short time ago, pushed forward by the automotive industry, are also obsolete, according to Rinck: "We are convinced

that forklift trucks are the Future means of transport for intralogistics because they offer unparalleled flexibility. Furthermore, they are absolutely reliable, powerful and efficient."

New concepts and ideas contribute to the fact that forklifts maintain their position as universal load carriers in intralogistics. At the Forklift Congress, the new reach-trucks from Linde and Jungheinrich's EFG 30D with rotating cab were discussed. An important theme is the integration of forklifts in modern

## POWERTRAIN

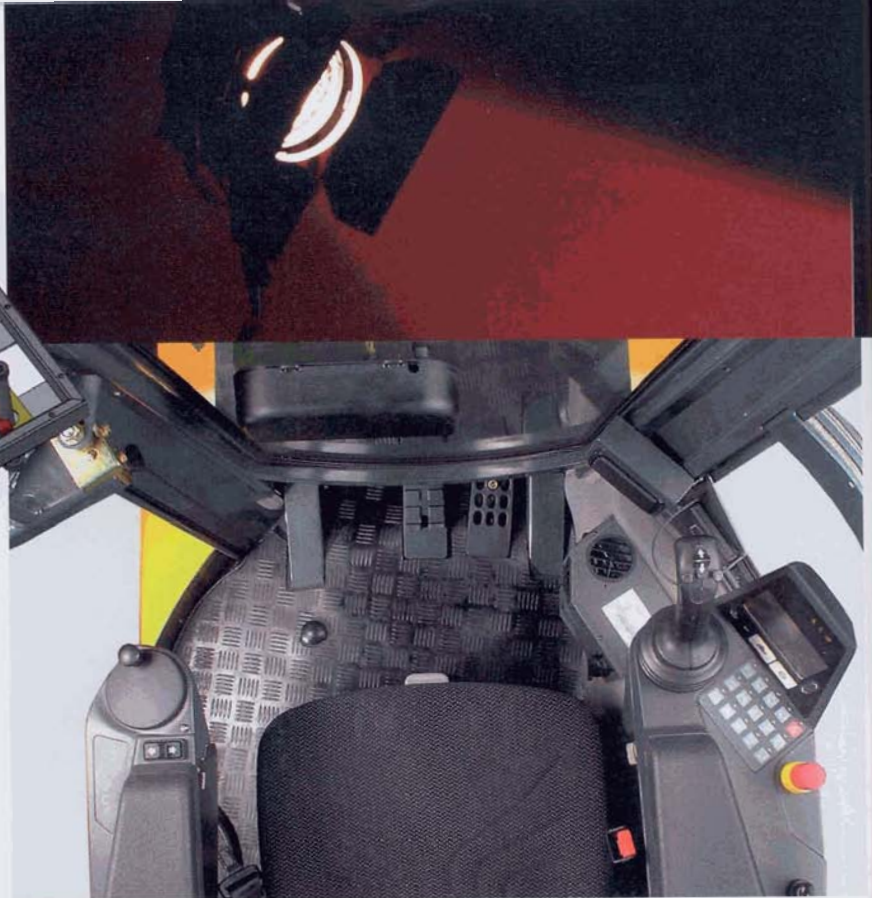


identification and information technology. Ludger Obermeyer, professor at the University of Hanover, presented his concept for the forklift as an RFID-based, mobile gate in intralogistics.

### Engineering: faster and safer

As forklifts become more and more complex and time-to-market an increasingly important factor, engineers are well advised to employ new, computer-based development methods. And as electronics play an important part in the development, CAE tools are a 'must' in this field. Dr Patrick Scheunemann from Still presented the advantages of rapid control design for engineering the software for a diesel-electric drive system. For the optimisation of new man-machine interfaces, driving simulators can be used. This is what Jungheinrich did when developing, for instance, the ECE Jet-Pilot, as Dr Carsten Hanisch (Jungheinrich) and Thomas Fortmüller (Helmut Schmidt University) explained. At the same time, their speech showed the advantages of close co-operation between researcher and manufacturer.

The innovations of the suppliers are an important driving element for more economical and flexible forklifts. In this part of the Congress, Dr Franz Josef Eckle



CLOCKWISE FROM BELOW LEFT: Lifting attachment in action and close-up for transport of roller quarter-pallets; Jungheinrich's revolving cab; the future for batteries

presented Hydac's condition monitoring system for hydraulic fluids, and Dr B. Riegel from Hoppecke Batteries gave a survey on the roadmap for the transition from single batteries of electrical forklifts via hybrid energy supply systems to fuel cell-driven trucks: concepts that are discussed in other parts of the world, too, as this year's LogiTech fair in Japan has demonstrated.

Many speeches made clear that the co-operation between institutes and laboratories on one hand and manufacturers on the other are even more important today, as the speed of innovation is increasing. Universities today are far from ivory tower status: they contribute to opening up additional applications for forklifts, which is what Jan-Henning Wille from

the Helmut Schmidt University presented – a lifting attachment specially developed for the cross-docking processes of retail logistics. Here, roller quarter-pallets are used, which can quickly tilt because the heterogeneous load is packed high.

Up to now, it was not possible to transport several of these dollies with a forklift without the risk of tilting over. The lifting attachment consists of a platform in which numerous hydraulic plungers are integrated. These plungers move down until they have contact with the load, then they are clamped hydraulically. In this way the dollies are protected against tilting. The market will soon see this lifting attachment because one of the major forklift manufacturers will include it in its attachment programme.



Audience members can have private discussions with speakers after the speeches

#### Feedback from practice

It is a tradition of the Forklift Congress that the experts get practically gained feedback – that is why users of forklifts are among the speakers, too. Josef Lackerbauer, head of Logistics of the BMW site in Regensburg, described the company's experiences with Jungheinrich's truck with a rotating cab. On site, more than 600 forklifts are employed, and BMW has already tried several alternative concepts for driving backwards with forklifts. Machines with



rotating seats were generally evaluated positively, but they did not fulfil all of BMW's requirements. The first truck of that kind is used for the transport of full and empty pallets for handling boxes. The driver can transport several pallets and benefit from perfect sight and an appropriate position without having to bend and stretch in uncomfortable and unhealthy positions. Lackerbauer explained: "With other forklifts, the productivity would have been reduced because the driver

can transport just one pallet." And all of the drivers remarked that they had less pain in the back and the shoulders. So, he continued, the extra cost for the rotating cab is a good investment – an example of improved ergonomics contributing to higher productivity.

#### Retail: farewell to forklifts?

The Forklift Congress gives room to critical voices as well. Martin Gleiss from retail company Spar AG in Salzburg, Austria, sees the trend of using roller pallets instead of conventional half and quarter pallets – so companies can make do without forklifts and save handling times of up to 65%.

This example shows that there is always competition, and forklift engineers must not stop in their efforts to increase productivity and efficiency of these machines. The next Forklift Congress, which takes place in Hamburg in June 2008, will show the results of these efforts. **IVT**

