**Joint Project Is Proof That Profinet IRT Is the Fastest and
Most Future-Proof Ethernet Protocol**

Since 2004 the INTERBUS Club has been working together with the PROFIBUS
user organization (PNO) to promote the (further) development of the Profinet system
and the integration of existing fieldbuses in the Ethernet protocol. The results of the
"Realtime Ethernet in Sensor/Actuator Networking" joint project initiated by the
German Federal Ministry of Education and Research prove that Profinet is the
fastest and most future-proof of the numerous realtime Ethernet protocols out there.

As part of the joint project, which involved
contributions from the Institut Industrial IT
(inIT), Lemgo, and the Technische Universität
Berlin, as well as others, the performance of
various transmission methods was studied in
a range of scenarios. Ethercat was selected
as the representative exemplar for the
summation frame method, while Profinet IRT
was chosen for data delivery via individual
frames. A performance comparison of both
transmission methods at a rate of 100 Mbps
showed that Ethercat is the best solution
when no more than 60 bytes of user data
have to be transmitted in basic machines with
a linear topology. Profinet IRT proved to be the ideal solution for higher volumes of
data. By shortening the runtimes in the devices, reducing the telegram overhead,
and using a slipstream effect, the performance of Profinet IRT can also be increased
for small volumes of data so that an even shorter cycle time can be achieved
compared to Ethercat. Participants in the joint project will present a prototype at the
Hanover Fair in 2008.

Wherever data has to be exchanged in complex systems with branched topologies,
Profinet IRT always offers performance advantages. An increase in the transmission
speed in linear structures to 1 Gbps has also meant that the approach to data
delivery using individual frames has benefited even more than other transmission
methods from an increase in the bit rate. Based on the results of the joint project,
which are available to download, the INTERBUS Club considers Profinet to be the
best realtime Ethernet solution, as users will benefit most from the further
development of the standard Ethernet system.

▶ Download results of the joint project

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