



TireTech Group



Tire Building Machines Upgrades & Services



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HF TireTech Group

Quality, competence and experience: Our profile for your success

We are innovators with body and soul. We developed the first machines for the rubber industry more than 150 years ago. Today, we are a global leader in pioneering the technical development of systems and machinery for the manufacture of tires and technical rubber goods. We provide high technology competence in all business units. The HF TireTech Group provides a range of technologies for all production steps in tire manufacturing and rubber

processing – from planning, design engineering, manufacturing, commissioning, right up to the complete maintenance of your systems: always tailored to your needs. We are constantly refining our components so that even following the initial purchase our machines will always be technically at the cutting edge. We are interested in long-term relationships with our customers: One team powered by commitment, keeping what we promise.



We know every inch of our machines, from the very first idea up to their delivery to our customers. We never lose contact and our customers value our intelligent design and service principles.



Upgrades to meet today's and future requirements. Replace all obsolete components. Install updated (new) services. Speed up tire production; meet new safety regulations.



Technical Improvement Program. There are a lot of important improvements to speed up and stabilize process. Improvements to subcomponents keep our machines state-of-the-art; and reduce downtime.



365 days a year, 24 hours a day – we guarantee our customers worldwide support, day and night.

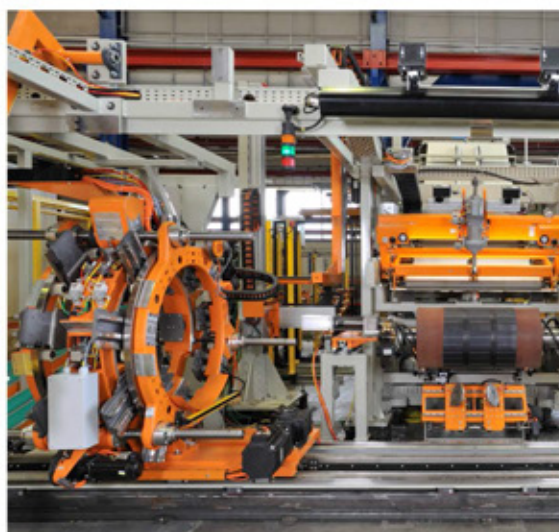
Tire Building Machines upgrades



„P1+2 13-16 Inch“



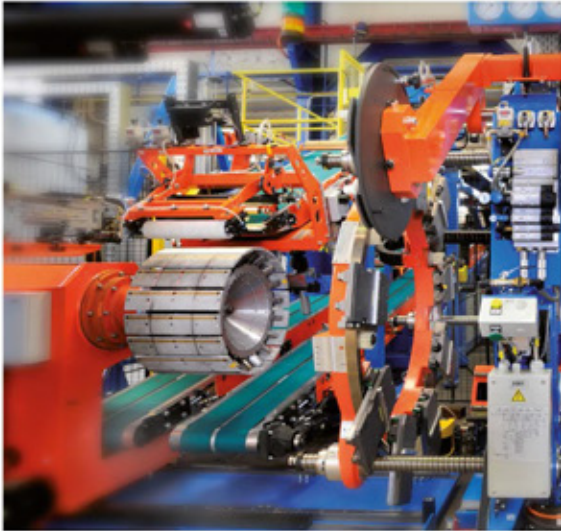
„PCR/LTR 14-20 Inch“



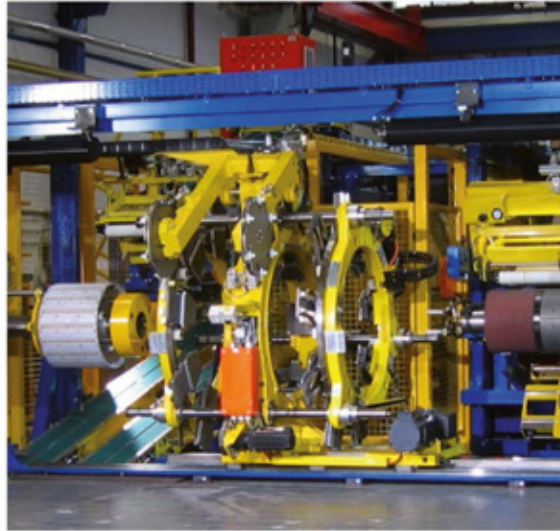
„PLT2 14-24 Inch“

Our machines achieve an optimal balance of high quality requirements with increasing output demands. The quality assurance requirements placed on tire manufacturers by the automotive industry have been increasing for years. At the same time, the demand for increasing product output remains unrelenting. Together with our customers all over the

world we have faced up to these challenges and, for decades now, have been developing machines in modular design which are easy to operate and simple to maintain. Regular updates, and the option of adding functional modules, ensure that our machines are also well equipped to meet the high demands that may be placed upon them in the future.



„PLT2-SD 14-24 Inch“



„PLT2 14-24 Inch“



„PLT3 14-30 Inch“

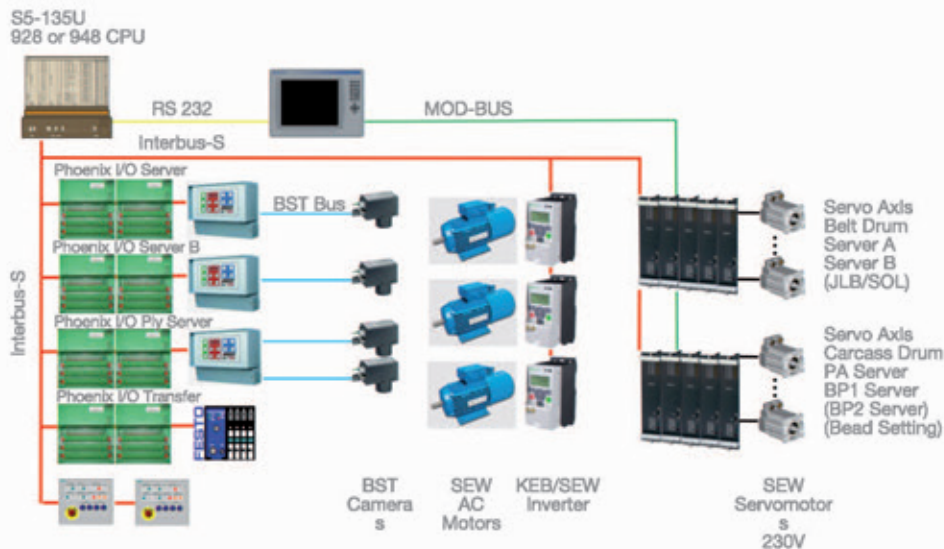
The know-how, the creativity and the enthusiasm of all our employees are our greatest resources. These highly motivated people are the key to our success. Everybody in our team is aware of their responsibility to satisfy our customers. We have lean structures which enable us to react quickly. Our mission can only be accomplished through teamwork and this

has brought us to the pinnacle of the tire-technology-evolution. Our customers can count on us. Our developments are always one step ahead of the rest, making us one of the most copied companies within our industry and our partners well prepared for the future.

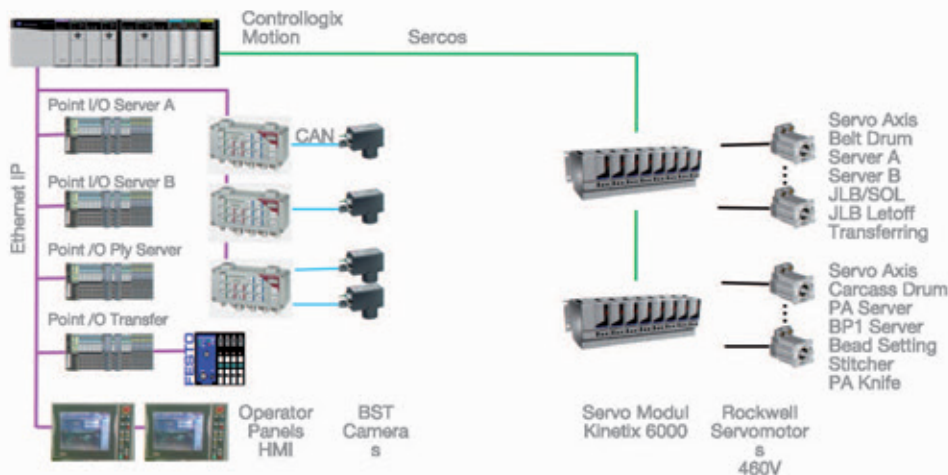
Complete Upgrade of P1+2 to meet CE level – as an example for possible solutions

Speed up and reduce downtime of TBM with HF TIP (Technical Improvement Program). HF prepares various upgrade and improvement solutions to stabilize tire production. We are proud to implement new concepts into production machines we delivered in the past. HF will continue working to extend TIP to all machine types. Please contact the TBM Service Team for further information.

Control system before upgrade



Control system after upgrade



Highlights:

- Upgrade control system to RA RSLogix 5000
- New I/Os with Ethernet IP, incl. safety system
- New cabinet for fast change out
- State of the art Touch Panel HMI system
- Integration of Level2 support
- New servomotors, incl. upgrade of transferring
- Upgrade material centering to BST or E+L
- Change out pneumatic valve incl. proportional control for cc-Drum
- CE approval



Successful Control Upgrade P1+2 before/after

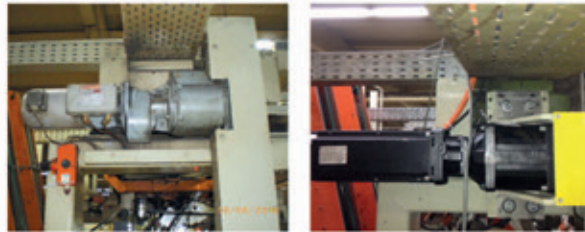
Operator Panels

Upgrade Pushbutton Station to Touch HMI



Transferring

Upgrade AC Motor to Servo Motor



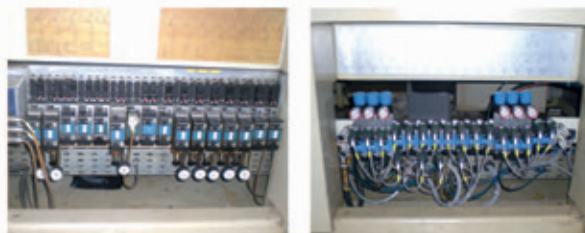
PA Server

Upgrade Safety area



Carcass machine

Replace Interbus S Pneumatic block
to Standard Pneumatic



Pre-cut Tread

Replace Pre-Cut Tread Server
to Reel Tread Server



For further recommendations please contact
our service team.

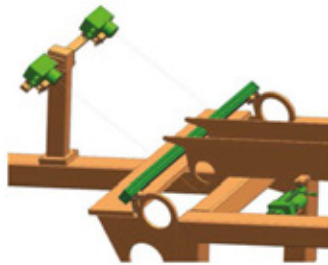
TIP – Technical Improvement Program

Conversion kits to improve machine handling & tire quality

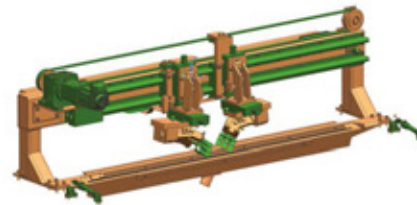
Our speciality:

Tailor-made systems

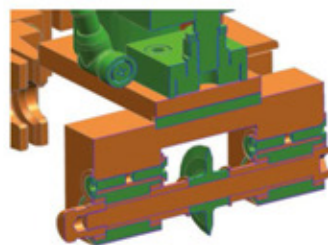
Speed up and reduce downtime of your TBM with HF TIP solutions. HF can prepare various upgrade and improvement solutions to stabilize tire production. We are proud to implement new concepts into production machines we delivered in the past. HF will continue working to extend the TIP to all machine types.



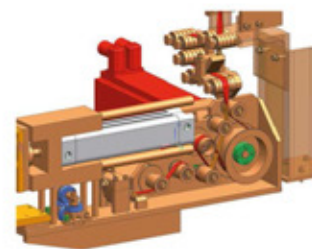
TIP No. 20.004 Belt Server
BST Upgrade (Belt Server)



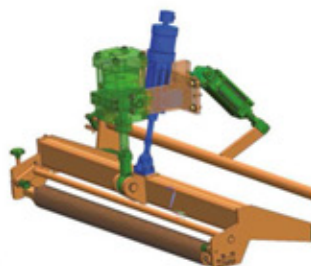
TIP No. 40.012 Ply Server
SW Cutter



TIP No. 23.002 Belt Server
Pizza knife floating version



TIP No. 71.002 JLB Server applying device
Tension of JLB



TIP No. 40.002 Ply Server
Multidisc roller and hollow piston cylinder

Examples

- + New cutting systems for various materials
- + Tension control of SOL/JLB head
- + Replacement of obsolete ultrasonic cutter
- + Upgrade of centering system to BST Pro or E+L
- + Multidisk roll low position



SmartMotion

Our HMI software is instinctive

The benefits of HF's HMI

- easy to use 2-D navigation
- integrated user manager
- recipe manager
- parameter manager
- servo diagnostics
- guided step sequencer diagnostics
- timeout diagnostics
- CCD-Camera diagnostics
- filterable alarms
- multi-lingual
- recipe structure (green tire code, machine parameters...)
- parameter change logger
- up to 5 independent HMI panels
- 19" panels
- programmed calibration routines

Pros

- + Control System – One source solution
- + Safety PLC – Guard Logix
- + Quick dimension change



When we invented our patented SmartMotion process our goals were clear: We wanted to make our machines at least 10% faster without reducing the quality of tire assembly. What we have actually achieved is an overall increased tire output of up to 20% (depending on machine type) with the same quality of tire assembly.

Using the same PLC hardware with a Rockwell HMI solution and the same recipe structure we have successfully reduced the overall "tire cycle time" by minimizing the internal system communication time. The servo motors move more smoothly, there is no jerking and there is less vibration. These factors together mean less maintenance on the machines.

SmartMotion is also available as an ideal product for upgrading older tire building machines. We can offer this upgrade at a very reasonable price so that the return on investment can be achieved within 2 years.

For further recommendations please contact our service team.

Service you can rely on – 24 hours a day

Supplier integrity

Our customers can rely on our machines 24 hours a day, seven days a week. Our machines are considered extremely reliable and very low-maintenance in every respect, provided that all wear parts are inspected on a regular basis and exchanged in time when necessary. We are constantly working on improvements and the optimisation of our components so that our machines will remain technically at the cutting edge. We have locations around the world

so that an HF specialist is close by whenever needed, knowing everything about the machine and speaking the local language. In addition, we also offer a long-term guaranteed spare parts service for all components.

The outstanding level of expertise that our customers gain with us as a service partner ensures our machines keep on functioning and delivering excellent results on a continuous basis.

24/7-Hotline: Tel.: +49 (0)40 77 179-270

Our spare parts

Genuine, precise fit, long-lasting and available for decades



We guarantee to supply our machines with spare parts for many years to come. Essential wear parts are mainly manufactured in our factory in Hamburg. These quality parts are designed to be particularly long-lasting and high-performance so that the functionality of our machines is guaranteed over the entire life cycle.

By the way, we don't just supply spare parts for our own machines, we are also able to supply spare parts for other manufacturers' machines.



Maintenance / upgrades

Always up-to-date - with professional maintenance and machine optimisation

We provide more than just support in machine design, assembly and commissioning.

We offer a wide-range of maintenance and optimisation services, particularly during running operations. Our team of experts provide quality analysis of our machines as an integral part of the regular inspection work and are able to target any weak areas revealed by these results and draw up the necessary measures required for optimising processes.

Our report also identifies where our machines are suitable for new applications or which measures are necessary for upgrading.

Our service examines whether ...

- energy savings are possible
- our system is working in an environmentally-friendly manner
- enhanced production performance is possible or what adjustments and upgrades may lead to an increase in output

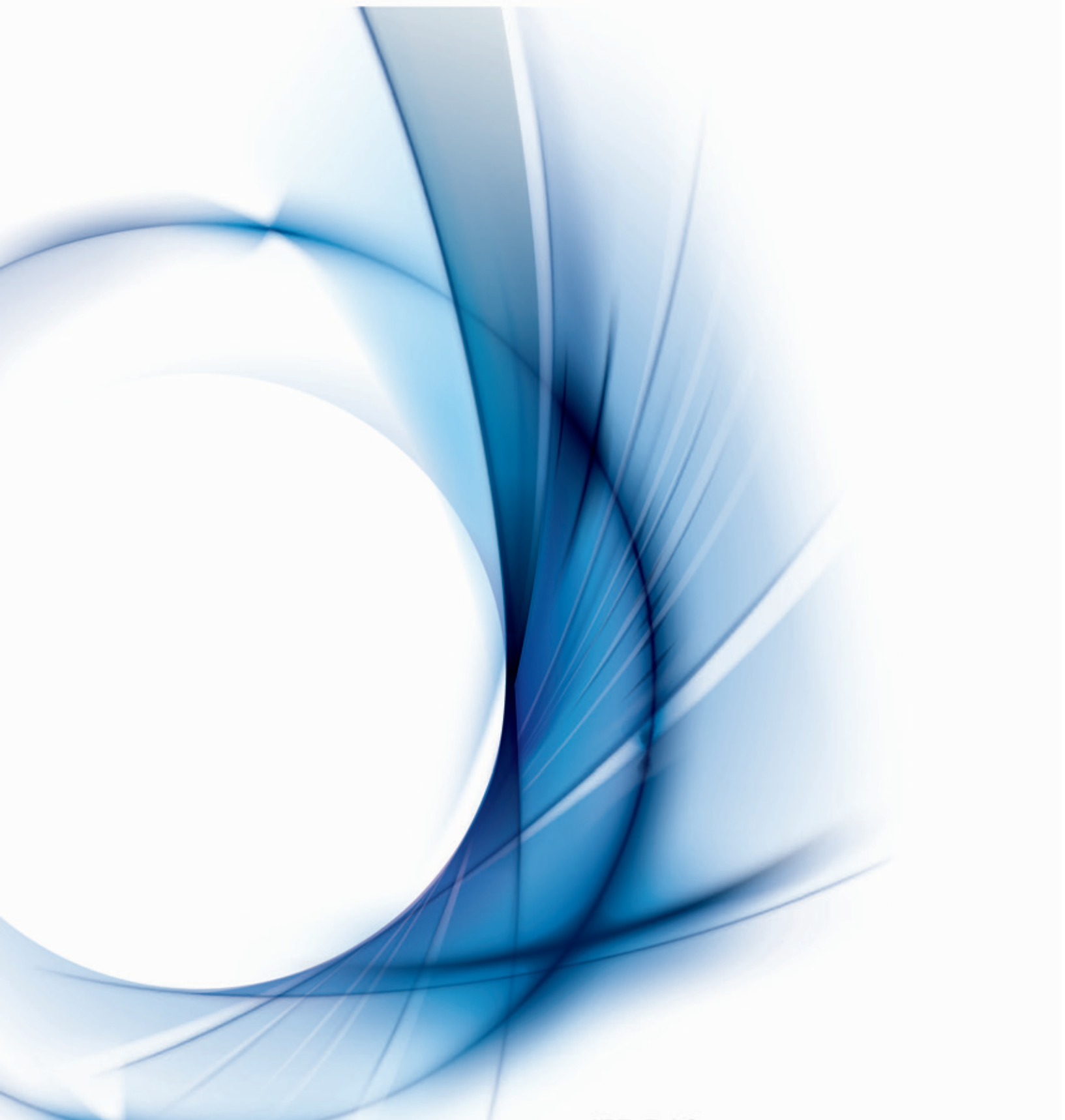
Our service conducts ...

- quality analysis and provides suggestions for improvement
- optimisation of our machines regarding procedures and processes

Our service develops ...

- concepts regarding the exchange or upgrading of individual components or for improving process management
- the relationship with our customers – this is always our utmost priority, therefore it is our focus every day

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