KEY TECHNOLOGIES FOR THE REDUCTION OF EMISSION AND CONSUMPTION.

1. Enhanced Common Rail Injection
   We have been using common rail systems successfully for over 20 years now. Our systems capability means we’re able to exploit potential during the combustion process to help make engines especially clean and economical.

2. Two-Stage Turbocharging
   Turbocharging enables our engines to achieve low fuel consumption, lowest emissions and high power output across a wide speed range. Turbochargers are finely adjusted to suit the demands on the engine in terms of cost-effectiveness, performance, dynamic response and service life. Space-saving integration of turbochargers into the engine brings the customer the added benefits of compact design.

3. Enhanced Common Rail Injection
   We have been using common rail systems successfully for over 20 years now. Our systems capability means we’re able to exploit potential during the combustion process to help make engines especially clean and economical.

4. Selective Catalytic Reduction (SCR)
   The SCR system can remove more than 90% of nitrogen oxides from exhaust gas. In SCR development, we have primarily focused on low fuel consumption and a low space requirement for SCR components.

5. Diesel Particulate Filter (DPF)
   Our Diesel Particulate Filters are capable of lowering soot emissions to levels that in some cases are well below the statutory limits. Statutory limits form part of the emissions concept.
Under challenging circumstances like these, it pays to have a strong partner by your side—a partner who thinks ahead and focuses on achieving sustainable success for your business above all else. By presenting our green drive solutions portfolio as EU-Stage-V-ready, we take the next logical step. Not only are all new MTU PowerPacks available as Hybrid solutions, but our modular strategy sets the stage for continuous improvements without alterations to the MTU PowerPack footprint. The Series 4000 is our masterpiece for the locomotive segment. This engine is always one step ahead of the future: the first engine in its class with EU Stage IIIB certification in 2012 – and now EU-Stage-V-ready. Available in 12V and 16V cylinder configurations, this engine provides clean power and pure profitability in all conditions. All drive solutions are ready to repower your equipment, helping you extend the life of your investment.

With increasingly stringent emission standards the rail industry is facing major challenges. Vehicle manufacturers, rail operators and other players are having to respond ever more quickly, and with ever-increasing agility, to emissions- and noise-sensitive environments, while at the same time maximizing equipment availability.

Under challenging circumstances the rail industry has a strong partner in its MTU PowerPacks. We think ahead and focus on achieving sustainable success for your business above all else. By presenting our green drive solutions portfolio as EU-Stage-V-ready, we take the next logical step. Not only are all new MTU PowerPacks available as Hybrid solutions, but our modular strategy sets the stage for continuous improvements without alterations to the MTU PowerPack footprint. Every MTU PowerPack can be individually configured, allowing for continuous development and improvement without alterations to the footprint. Every MTU PowerPack can be individually configured, allowing for continuous development and improvement without alterations to the footprint. Every MTU PowerPack can be individually configured.

**PowerPack key benefits at a glance:**
- Simple to repower: flexible and standardized solution across all Series 4000 key benefits:
- EU-Stage-V-ready
- Reliable performance: in all conditions
- Clean power: pure profitability
- Identical footprint to the previous model (EU Stage IIIB)
- Ready for repowering projects: extend the life of your investment

**Series 4000 R04:**
Always one step ahead of the future. The Series 4000 was the first engine in its class to be Stage V compliant in 2012. The Series 4000 today offers rail operators, vehicle manufacturers and rail operators an extremely reliable, clean and efficient locomotive engine. Cost-effective and easy to maintain, this engine is ready to deliver 20% fuel savings on all new applications. The Series 4000 R04 has been proven thousands of times over, and its predecessors, the latest edition to its family, continues to be one of the world’s most fuel-efficient, environmentally friendly and reliable locomotive engines. A compact, highly economical powerhouse that really goes the distance. The Series 4000 has proven itself thousands of times over, and its predecessors, the latest edition to its family, are a force to be reckoned with. Working for you, and for the environment.

**Series 4000 key benefits at a glance:**
- EU-Stage-V-ready
- Reliable performance: in all conditions
- Clean power: pure profitability
- Identical footprint to the previous model (EU Stage IIIB)
- Ready for repowering projects: extend the life of your investment

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<table>
<thead>
<tr>
<th>Engine model</th>
<th>Exhaust Gas Aftertreatment</th>
<th>Internal Emission Technology</th>
<th>SCR</th>
<th>DPF</th>
<th>EGR</th>
<th>2st Turbocharging</th>
<th>Advanced CR Railcar Series 1800</th>
<th>Railcar Series 1600</th>
<th>Locomotive Series 4000</th>
</tr>
</thead>
</table>