A road construction company wanted to determine the best lubricants for equipment it would use on a new project in Indore, India. The equipment included heavy-duty machinery from Komatsu, MAN and Greaves. After considering different lubricant suppliers, the company chose Shell Lubricants. Shell recommended Shell Rimula R3 X 15W-40 for all the engines, which gave an oil-drain interval of 300 hours.

Subsequently, owing to an increase in the workload, the customer wanted to extend the oil-drain interval, so Shell proposed Shell Rimula R4 15W-40 for this. To support this recommendation, the Shell technical team used the oil condition monitoring service Shell LubeAnalyst to measure oil performance and identify the correct oil-drain interval.

By switching to Shell Rimula R4 15W-40, the company was able to extend its oil-drain interval by 50% from 300 to 450 hours. The company reduced its lubricant consumption and extended its maintenance intervals because fewer oil changes were required, which resulted in lower maintenance costs. It also benefited from reduced production downtime and was able to complete the project two months earlier than scheduled. The company reported a total annual saving of US$40,000.
Shell Rimula R4 Energised Protection oil uses exclusive combinations of the latest high-performance additives to ensure that the oil adapts and protects under the full range of pressures and temperatures found in modern engines – from the high temperatures in the pistons to the extreme loads found in the valve trains. Featuring extra-active additives to control and sweep away the harmful soot and particles found in high-performance engines, Shell Rimula R4 delivers excellent soot and viscosity control, and outstanding protection against wear. It also offers exceptional versatility; fleets with multiple engine makes need only one oil.

Applications
- Severe-duty diesel engines. Shell Rimula R4 provides demonstrated protection and performance in the latest high-power, heavy-duty diesel engines from European, US and Japanese manufacturers in both on- and off-highway applications.
- High-technology, low-emission engines. Shell Rimula R4 is suitable for most modern low-emission engines meeting Euro 2, 3 and 4, and US 2002 emission requirements.
- For the latest low-emission engines, especially those fitted with exhaust diesel particulate traps. Shell recommends its low-emission products: Shell Rimula R4 L and Shell Rimula R6 LW/LME.

Performance features and benefits
- Outstanding protection. Featuring an exclusive additive system to ensure Shell’s maximum soot handling, Shell Rimula R4 delivers excellent wear protection and long oil life in Euro 3, US 2002 and other advanced engines.

Specifications and approvals
- API CI-4, CH-4, CG-4, CF-4 and CF; ACEA E7, E5 and E3; Global DHD-1; Caterpillar ECF-1-A; Cummins CES 20078, 77, 76, 75, 72 and 71; DDC 93K215; MACK EO-M and EO-M+; MAN M3275-1; MB Approval 228.3; Renault Trucks RLD-2; and Volvo VDS-3

Complementary products

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<td>Shell Spirax S2 G, Shell Spirax S3 G, Shell Spirax S6 GMX</td>
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<tr>
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<td>Shell Spirax S2 A, Shell Spirax S3 AX, Shell Spirax S6 GMX</td>
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"Shell Lubricants" refers to the various Shell companies engaged in the lubricants business.

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