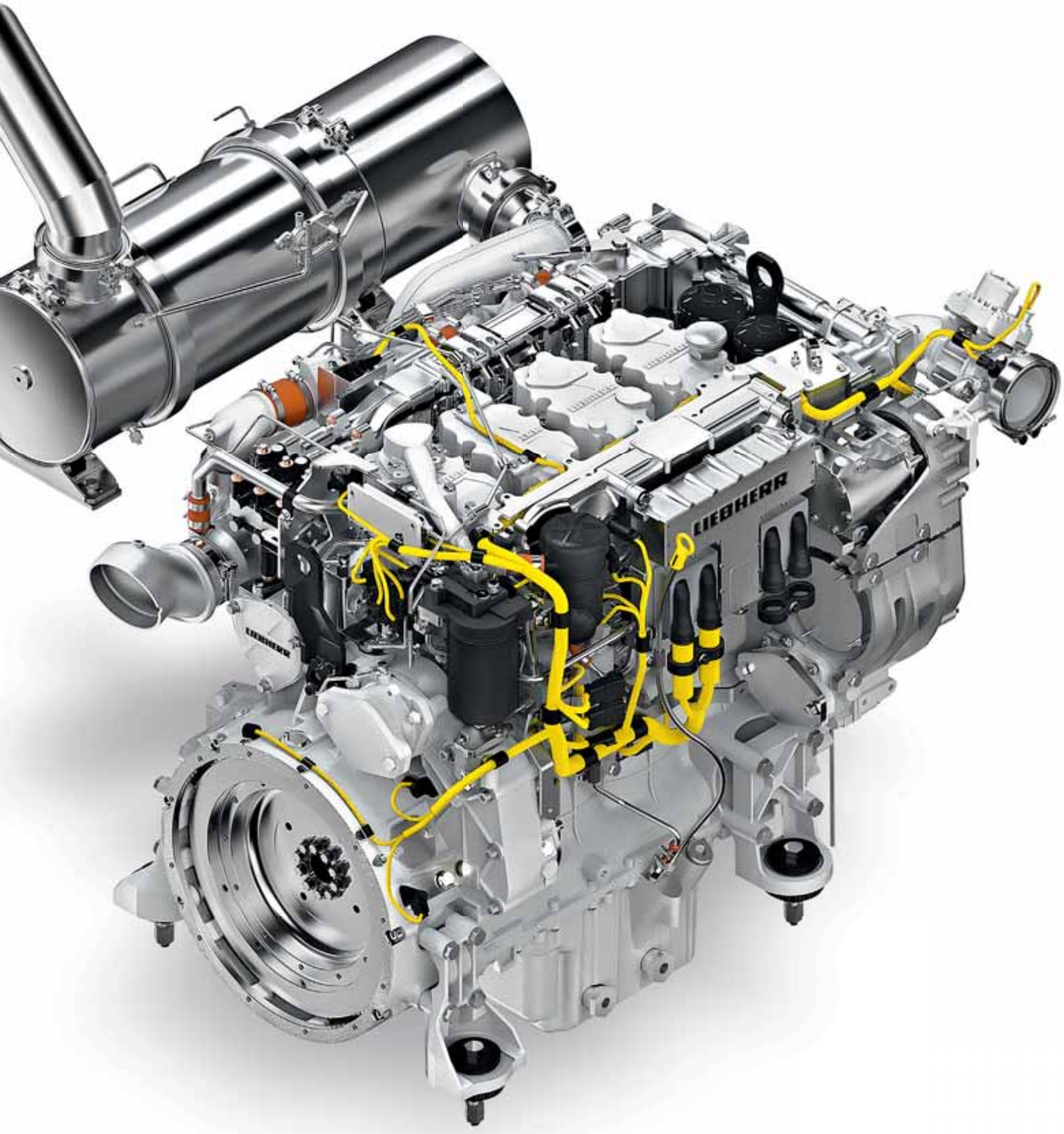
Efficiency of Liebherr crawler cranes,
duty cycle crawler cranes, piling and drilling rigs

Fuel Costs Matter



LIEBHERR

Efficiency-enhancing engine features

A decisive factor for the purchase of a Liebherr machine
The newest Liebherr drive and control systems offer several optional features that help to reduce fuel consumption and maximize the reliability and productivity of crawler cranes, duty cycle crawler cranes as well as piling and drilling rigs.

Since 2012, Cementation Skanska Ltd. have been operating Liebherr LB series drilling rigs within our multi-functional plant fleet. We have seen high levels of machine utilisation across the UK. The machines (LB 24, LB 28 and LB 36) have been reliable and have performed well, with overall breakdown time at only one percent of overall utilisation. Repair costs have been in line with expectations. We have seen a reduction in machine fuel consumption. This is positive and aligns with Skanska's 'green and sustainable culture'. The Liebherr machines are proving to be good assets in terms of whole life cycle costing and capability.

Steve Joynson – Plant and Fabrication Director of Cementation Skanska Ltd.

Downsizing of the engine:

Thanks to the machine's optimized hydraulic system, the size of the primary source can be reduced without negative effects on the turnover. The efficiency is thus significantly increased while the fuel consumption is decreased. In the new duty cycle crawler crane HS 8130 HD, for instance, the engine power has been reduced to 505 kW compared to 670 kW in the preceding model.

Engines of the latest generation:

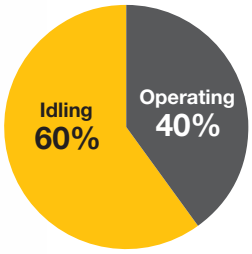
All diesel engines complying with Stage IV/ TIER 4f have a limited maximum speed of 1,700 rpm. This contributes to fuel savings of approximately 5% compared to previous engines.

Eco-Silent Mode:

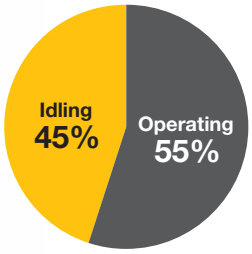
With the help of this feature the engine speed is reduced to a predefined, required level. Hence, a notable reduction in diesel consumption can be achieved without any impact on operational output. As a further benefit noise is also reduced by the Eco-Silent Mode.

Lowering speed of engine while idling:

Deep foundation rigs and duty cycle crawler cranes are in idling mode for 45% of their operating time. This figure lies at even 60% for crawler cranes. With the lowering of the engine speed from 950 rpm to 750 rpm while the machine is in idling mode, up to two litres of fuel per hour can be saved.



Crawler cranes



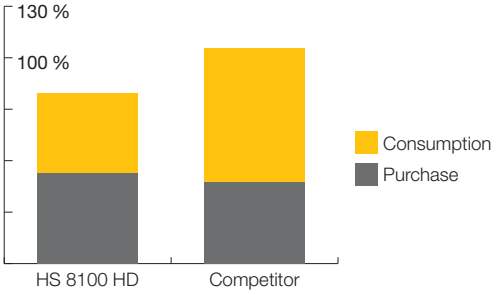
Duty cycle crawler cranes
Piling and drilling rigs

Automatic engine stop control:

The engine switches off automatically during longer work interruptions after having checked certain system functions including the actual charge level of the battery, the operating temperature of the engine as well as the control that all machine functions are deactivated. This saves fuel and reduces emissions. At the same time the machine has fewer operating hours, thus increasing its residual value, extending both its warranty and the maintenance intervals.

Change of focus?

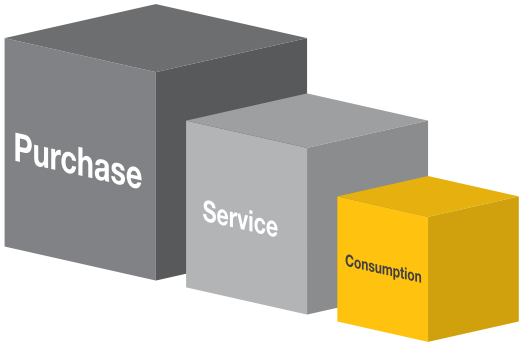
The described features help to increase the efficiency of the machine throughout its whole life cycle. When buying a machine the focus should not only lie on the purchase price. Fuel consumption, longer service intervals as well as a longer service life must also be considered. These aspects are at least as important since they are the main cost factors over the entire lifetime of the machine.



Example

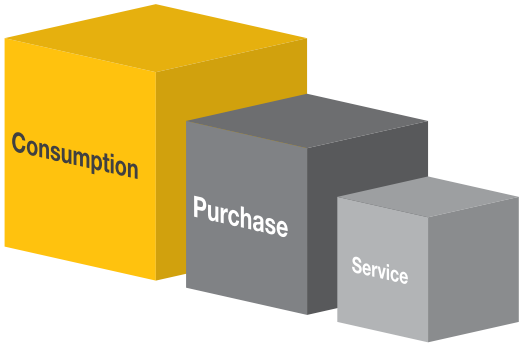
The illustrated chart indicates the purchasing and consumption costs of a Liebherr HS 8100 HD duty cycle crawler crane compared to its competitor after 20,000 operating hours. No less than 45% (HS 8100 HD) and 61% (competitor) of the total costs are fuel. **Hence, the engine's fuel consumption is a decisive criterion for saving costs in the long run.**

Current focus?



A change is required!

The main cost factors:



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