CASE STUDY



Time-honoured Japanese company Kato, one of the world's leading manufacturers of mobile cranes, construction and industrial equipment, was founded 124 years ago – 15 years before Clessie Cummins started on his path to commercialising the diesel engine.

It appears that Kato may well have challenged Cummins as a diesel engine innovator as far back as 1923 when the Japanese company began manufacturing its own diesel and gasoline engines. That was a project that only lasted a short time, however.

Kato and Cummins have a proud association dating back 40 years when Kato began using a Cummins engine in an earth drill. With traditional Japanese quality at the core of everything it does, Kato began manufacturing fully hydraulic mobile cranes in 1959 and fully hydraulic excavators in 1967, and in a good year will produce up to 1,800 mobile cranes and 2,000 excavators at its Japanese plants. Kato also has production plants in China, Thailand and in Italy in a joint venture.

Today, Cummins engines – most with Tier 4 Final emissions compliance – power an impressive range of Kato equipment including Cityrange cranes, crawler cranes, crawler carriers and earth boring rigs, and are also used on snow sweepers to power the air blowers.

The Cummins line-up for these applications includes the QSB4.5, QSB6.7, QSL9, QSM11 and X15.



CASE STUDY

From left: Nobu Hirokado – Account Manager, Cummins Japan; Mitsuo Okada – Director & Senior Executive Officer, Development Headquarters, Kato; Yasuhiro Kondo – Senior Manager, First Design Department, Kato; Eric Waters – Managing Director, Cummins Japan; Hajime Fukushima – Chief Engineer, First Design Department, Kato.

New 25-tonne capacity CR-250RV Cityrange crane powered by the Stage V Cummins QSB6.7 rated at 205 kW (275 hp) was displayed at Bauma this year.





Crawler carrier is offered with Cummins QSB6.7 and QSL9 engines.

The popular 20-tonne capacity CR200-series Cityrange crane uses the Cummins QSB6.7 rated at 175 kW (235 hp) and has Tier 4 Final emissions compliance for local and export markets. The B-series engine is the most popular diesel ever built by Cummins and is now in its fourth decade of continuous improvement with the release of the 6.7-litre version with Stage V emissions compliance.

In terms of engine technology, Kato's focus now is on Stage V – the toughest ever off-highway emissions standard which was introduced in Europe in 2019 and is expected to become a requirement in Japan and other global markets in the next couple of years.

Cummins' Stage V emissions solution is welcomed by Kato. "The big advantage with the Stage V engine and aftertreatment system is that it is a less complex, more compact assembly," said Mitsuo Okada, director and senior executive officer of Kato's development headquarters.

This year at Bauma – the world's leading construction machinery show held in Germany – Kato displayed its new 25-tonne capacity CR-250RV Cityrange crane powered by the Stage V Cummins QSB6.7 rated at 205 kW (275 hp).

"We had very positive customer feedback at Bauma," said Mitsuo Okada. "We see a lot of opportunity with our Stage V Cityrange crane."

An EGR-free design for simplicity, the Stage V engine has Cummins' 'Single Module' aftertreatment technology which combines the DPF, SCR and urea-dosing in one unit, providing significant reductions in envelope size and weight compared with Tier 4 Final.

Apart from the more compact installation, other Stage V benefits include improved performance, reduced maintenance and longer service intervals.

Kato sources its engines from Komatsu Cummins Engine Company (KCEC) in Japan which is now producing the 6.7-litre Stage V product. Kato's experience with KCEC is that it builds "very good" quality engines.

"We get very good technical support from Cummins Japan," said Mitsuo Okada. "Cummins' ability to customise its product to our needs gives us the flexibility we need."

He said that while other diesel engine suppliers provided truckbased product with limited flexibility for component positioning, Cummins offered a number of variations for the likes of the turbo which made for a cleaner, more efficient installation.

Delivering product leadership for its customers is Kato's No.1 priority, and in a world of rapid change there's no doubt the company will embrace this change, as it has done during its rich history – a mindset that will ensure success for many more years to come. ■

