

# Spanish Stralis

A visit to Iveco's Madrid assembly plant enabled Brian Weatherley to quiz product director Martin Flach on what exactly operators can expect from the Italians' leaner, greener Euro 6 diesels

**A**fter the first Euro 6 ripples from Brussels, the view among most industry observers, not to say manufacturers, was that the tighter emissions regulations would have to be met by engines featuring both SCR (selective catalytic reduction) and EGR (exhaust gas recirculation). But Iveco had other ideas. As early as 2010 it declared its intention to meet Euro 6 with SCR only.

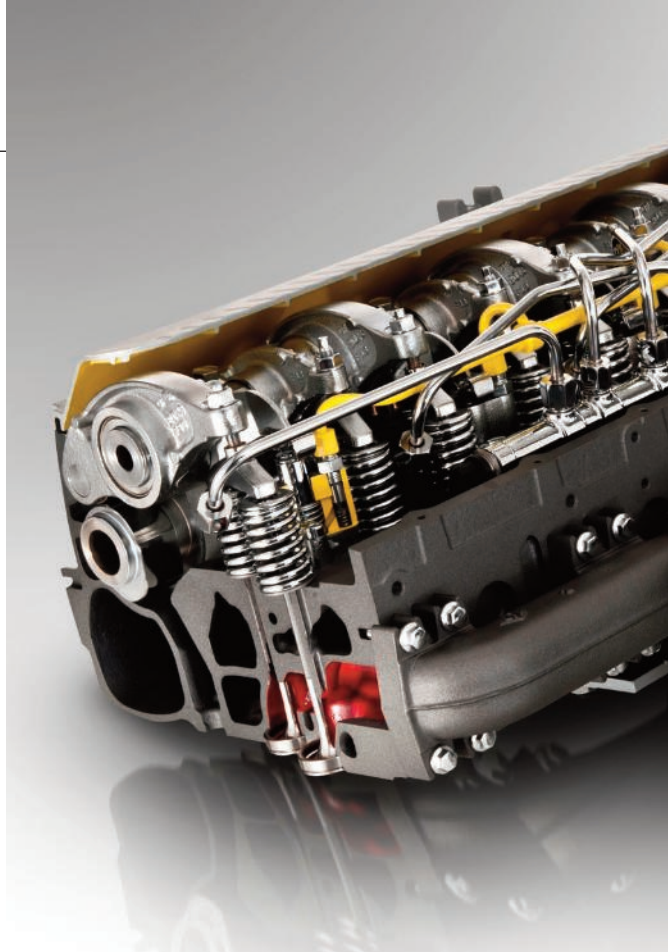
Two years later, Fiat Powertrain (Iveco's sister company in the CNH Industrial group) duly unveiled its HI-eSCR (high-efficiency SCR) range of Cursor 9-, 11- and 13-litre engines, designed for Iveco's New Stralis, all without EGR. (For the record, Scania has also joined the SCR-only club, with one 13-litre and two 9.3-litre engines, though most of its

Euro 6 power plants feature both SCR and EGR.)

Iveco's HI-eSCR has a high NOx conversion rate of more than 95%, while an electronically-controlled exhaust brake flap valve in the Cursor's exhaust downpipe helps the engine to warm up quickly, enabling its SCR-only system to rapidly reach optimum temperatures and meet the 'cold phase' of the Euro 6 emission test cycle – again without recourse to EGR.

## Diagnostics and control

Consequently, Iveco's HI-eSCR Euro 6 Cursor engines, used in New Stralis, and its Tector engines, in the soon-to-arrive New EuroCargo (see below) both avoid the complexity of a dual, emission-reduction system. And that means eliminating



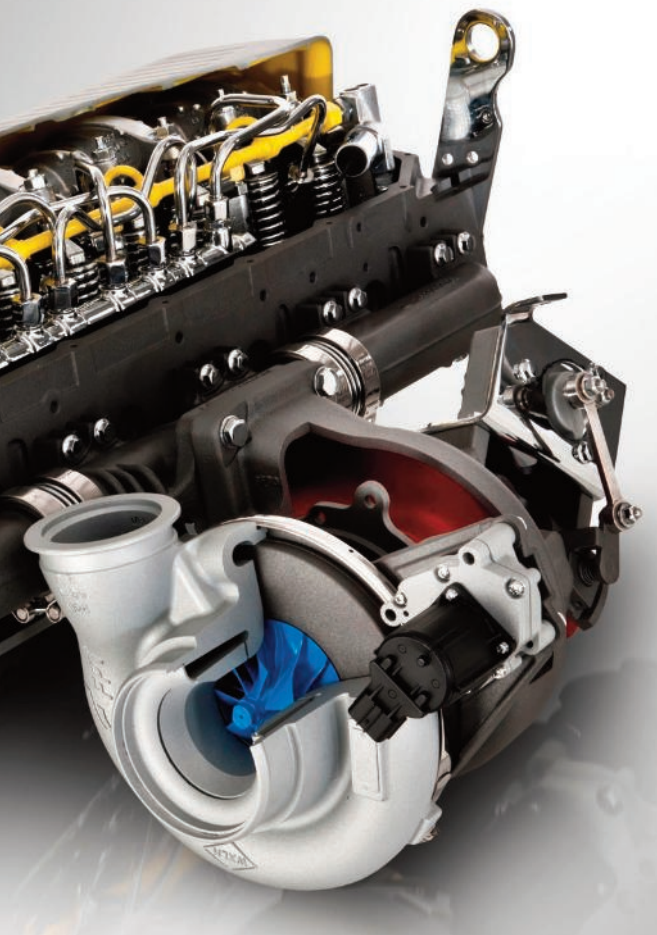
## Euro 6 EuroCargo countdown

Iveco's long-awaited Euro 6 EuroCargo will break cover before the end of the year, with the greatest changes expected under the cab. "We're not doing a facelift on EuroCargo yet," states UK product director Martin Flach. "That's coming later. So it's a stepped approach. The first thing will be Euro 6, based on four- and six-cylinder [common rail] Tector engines."

The engine architecture also remains the same, as does the chassis. "There'll be an evolution over the next 12–18 months."

Expect to see the initial Euro 6 launch around the beginning of December. Meanwhile, Flach reiterates: "Right the way from the little four-cylinder, in the 7.5-tonner, up to the 13-litre in a Stralis, it's SCR-only. On the [Euro 6] SCR-only Tector engine, although we'll increase the displacement slightly, it remains pretty much the same with an identical [common rail] injection system. You've just got a bigger exhaust box."





cooling issues associated with EGR, while also saving weight through the lack of EGR plumbing.

Yet for all the Euro 6 Cursor's sophistication, Iveco UK product director Martin Flach insists: "It's technology we've been using for a long time. Yes we've put common rail on it, but we've been using that on the Daily and EuroCargo for many years." It's the same story with the Cursor's variable geometry turbocharger. "We've been using VGTs since the start of the Cursor," states Flach, "only now, electronic control enables us to have better diagnostics and control."

And he continues: "Exhaust brake flaps are hardly new: the control mechanisms are more sophisticated, but the technology is very much stuff we've used for many years." What about the packaging? "The SCR has got a bit bigger, and we've put a diesel particulate filter on it – but it's not dramatically different."


### Spanish armada

And so to Spain. Following Iveco's decision in 2012 to consolidate all its Euro 6 Stralis production at its Madrid assembly plant (previously, it shared Stralis assembly with Iveco's Ulm plant), Spain is now the Italian truck-maker's dedicated European heavy truck production centre. That now applies to building both Euro 6 Stralis and Trakker multi-wheelers.

While visiting the Madrid plant, I took the opportunity to drive a 'fresh off the line' Euro 6 Stralis HiWay tractor, powered by the most powerful 480bhp Cursor 11 in-line six. In common with most other European top-weight artics, my two-plus-three rig was loaded to 40 tonnes. The latest interior on the facelifted Stralis HiWay Active Space cab

certainly boasts improved build quality, along with plenty of room and extra comfort for the driver. It's also very quiet inside.

But what particularly impressed me was the outstanding driveability of the Cursor 11 480. Its electronically-controlled VGT (incorporating a sliding annular ring that speeds up air flow through the turbo at low revs) ensures noticeably brisk acceleration when starting off. Coupled to the standard EuroTronic (nee ZF AS-Tronic) auto box, the Stralis 480 proved exceedingly quick off the blocks, whether at junctions or roundabouts.

Flach says the Euro 6 Stralis's common rail fuelling also contributes to the vehicle's improved performance. "Part of the benefit is, unlike when you've got a fuelling system where you've got to start revving it to get the pressure-up, you don't have that problem with common rail. You've already got a reservoir of fuel at the right pressure so you can start injecting and getting the engine to accelerate very rapidly." 

## Myth-busting AdBlue on SCR-only

One aspect that has changed on the Euro 6 Cursor engine is its AdBlue consumption – which surely impacts tank sizes? "It's about two to one [diesel tank versus AdBlue tank size] on Euro 5," states Iveco's Martin Flach. "Euro 6 will have a slightly higher AdBlue usage, so it's probably going to be a little less, but it will depend on the vehicle."

While previous industry-accepted design criteria for Euro 4 and 5 chassis was that an operator would get at least two fills of diesel to one of AdBlue, Flach anticipates change. "On some vehicles, we won't quite make two, largely because of space on the chassis." However, while acknowledging that there may be a couple of models "where we just drop slightly below", he stresses that any increase in AdBlue usage will only be incremental: typically 5–6% on Euro 5, but 7–8% on Euro 6.

Nevertheless, if a Euro 6 Cursor consumes more AdBlue, that's additional cost, right? Fortunately not, because Iveco's Hi-eSCR engine is typically 0.5% more fuel-efficient. "As AdBlue is roughly a quarter the price of diesel, that comes out roughly price-neutral," says Flach.

Also, while many operators may have wanted to avoid topping up AdBlue between six-weekly safety inspections, for many that's always been wishful thinking. "It depends on the operation," comments Flach, noting that on heavy vehicles, you'll never get to it. "On Euro 5 vehicles, most people are filling up with AdBlue when they fill up with diesel – though probably less so for those filling at forecourts."

