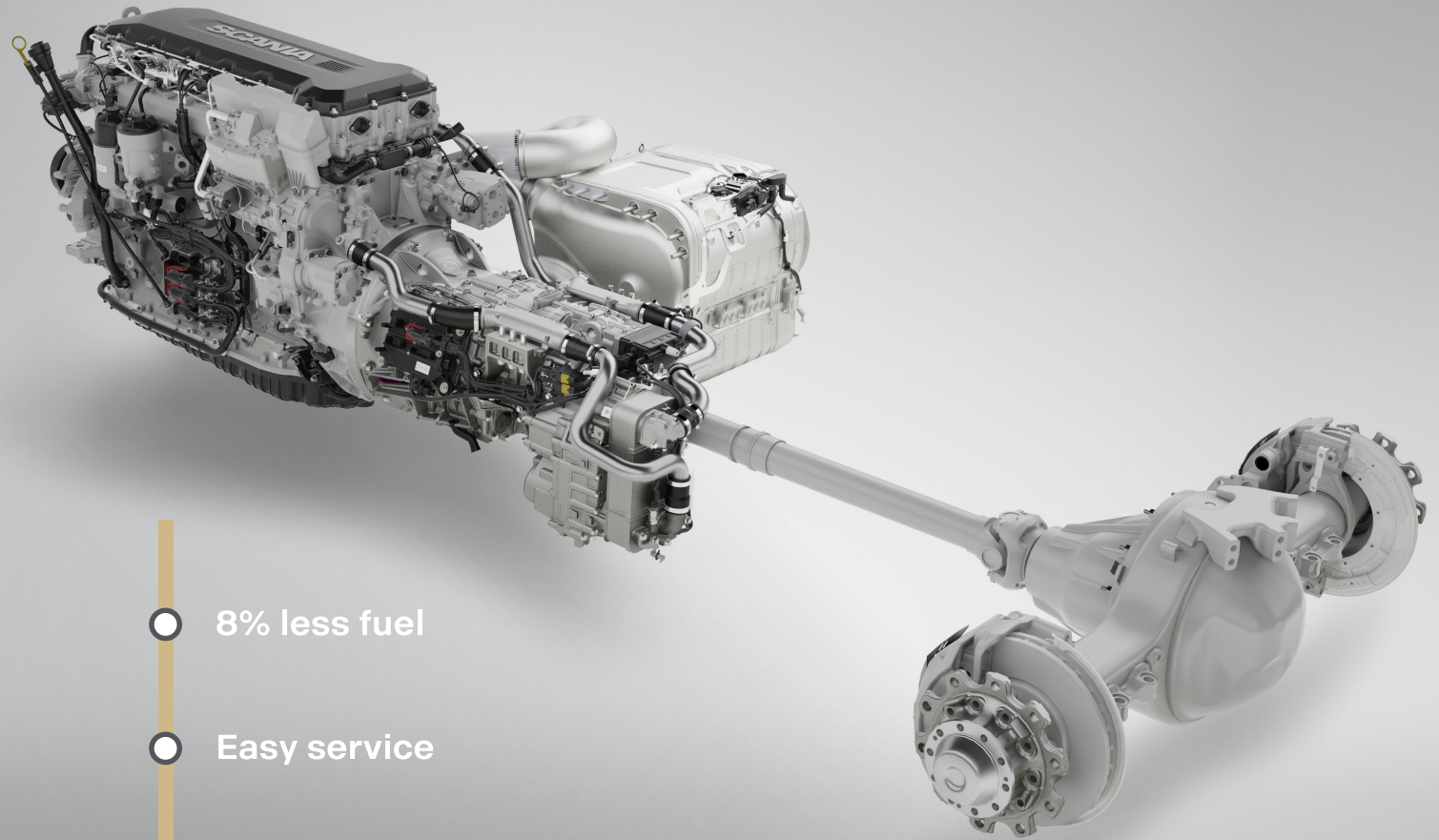




A REINVENTED BUS AND COACH POWERTRAIN PLATFORM

# MEET THE SCANIA SUPER & PLUG-IN HYBRID



- 8% less fuel
- Easy service
- Euro 7 prepared
- Long life

**SUSTAINABLE  
PROFITABILITY**

# SCANIA

# MORE SUSTAINABLE FOR BOTH CLIMATE AND BUSINESS

The world needs transport, and the world needs those transports to be sustainable. At Scania, we see it as our mission to provide vehicles, services and holistic solutions to make transport sustainability possible, while also taking economic viability into account.

Some operators aim to stay a step ahead of the demands – but change is also mandated by everything from local low-emission or emissions-free zones within individual cities, to widely implemented emissions targets. These increasingly strict demands

are enforced through international, domestic as well as local ordinances. And quite honestly, we think that's a very good thing.

We strive to ensure not only that the needs of the world can be met,

but to be a driver of change when it comes to the future of transport. In terms of sustainability, but also with a profitability approach that ensures it's as sustainable for transport businesses as well.

## ONE PLATFORM – TWO DISTINCT PERFORMANCE STEPS



**The Scania super powertrain**

Fuel efficiency, streamlined maintenance and long service life are all key for profitable operations with minimised emissions. With a 13-litre engine improved in almost every way, a new gearbox, new brake system options and axle choices – several key operational aspects have been made better.

**A great choice to lower cost and emissions in demanding intercity and long-distance operations.**

*\* Our new 13-litre engine promises up to 8% improved fuel efficiency when combined with the other updated powertrain components. And in PHEV-configurations the fuel efficiency improvement can be as much as 40% – while also promising up to 80 km of fully electric range. The fuel efficiency and range numbers stated are dependent on operation, route and charging strategy and represent typical coach operations.*



**The plug-in hybrid (PHEV)**

Sustainability and performance are far from opposites. All the range of a conventional powertrain, but with further improved fuel efficiency, power and torque. And with the ability to run in fully electric mode, ensuring zero emission capability and improving both comfort and driveability.

**An excellent solution for highly efficient long-distance travelling with zero emission capability and premium comfort.**



### Benefit overview – the Scania Super powertrain

- Up to 8% improved fuel efficiency
- Prolonged service life (up to 2.000.000 km)
- Simplified maintenance
- Improved torque and gear shifts
- Renewable fuel compatibility



### Added benefits with the plug-in hybrid (PHEV)

- + Up to 40% improved fuel efficiency
- + Up to 80 km electric range
- + Zero-emission capability
- + Low noise electric operation
- + Further increased torque and power
- + Outstanding passenger comfort

### THE SCANIA SUPER – WITH ELECTRIC CAPABILITIES

Our new powertrain platform is based on the award-winning Scania Super truck powertrain, bringing exceptional efficiency, durability, and serviceability.

The plug-in hybrid (PHEV) enhances the Super powertrain using electric components, adding even higher efficiency and performance, premium comfort, and full operational flexibility.



# DRIVEN BY CUTTING-EDGE ENGINEERING

We know that long-distance operators always want more efficient vehicles, while not sacrificing performance or reliability. At the same time, sustainability requirements from cities or passengers present new challenges. Our new powertrains provide the solution for any challenge, with the same engineering quality that can always be expected from Scania.

## ONE SOLUTION FOR EVERY NEED

In a time where carbon emission regulations and varying local sustainability laws are creating additional challenges and uncertainty for many operators, our new powertrains provide the answers needed. The highly advanced Scania Super is our most efficient, cost-effective and long-lasting combustion powertrain yet. And the plug-in hybrid variant is an excellent option for achieving zero-emission capability or wanting to further decrease cost and emissions, while boosting passenger comfort.

With these two distinct powertrain alternatives, finding a solution perfectly fitted to particular challenges and prerequisites has never been easier.

## THE PLATFORM FOR THE RIGHT VEHICLE

Catering to varying needs and wants is fully in line with our continuous engineering development, modular philosophy, and strong bodybuilder partnerships. With over a century of experience, we know how to put a purpose-tailored vehicle together – turning our adaptable platform into locally suited buses and coaches

to fit each specific operation. For many operators, the 13-litre Super engine constitutes an outstanding starting point, coupled with other new components such as the Scania Opticruise gearbox, fitted to an updated chassis range that retains the same body mounting dimensions as our current generation. With the new powertrain platform, we have laid the foundation for running transport operations that are both profitable and better for the environment.



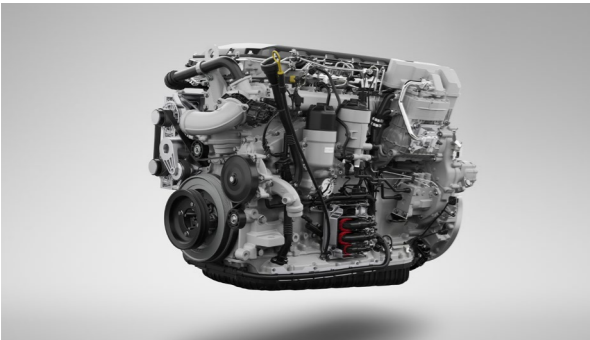
# THE SCANIA SUPER POWERTRAIN

# STATE-OF-THE-ART

# IN EVERY ASPECT

The new in-house developed powertrain brings substantial improvements to almost every part and component.

A fraction of a percent times a hundred can turn into a massive number, especially when scaled to a fleet – and over time. With a very efficient 13-litre engine at the heart, the vehicle can operate much more sustainably, with lowered fuel consumption and emissions, for longer than ever before.



### 13-litre engine

Our new 13-litre engine uses proven technology from its award-winning truck sibling. Thanks to its many engineering strides, it does not only deliver exceptional fuel savings, but has also been made easier to service, with access to key parts from the cold side of the engine. On top of that, the engine was also designed with the ambition to last 25% longer, giving a designed life-length of up to as much as 2,000,000 km. And with great torque at low revs, it also offers fantastic driveability.

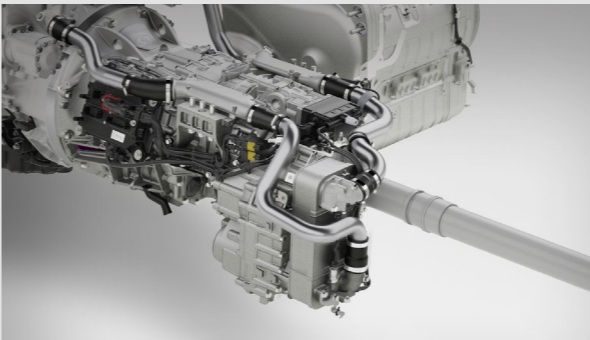
#### Engine improvement highlights

- Improved brake thermal efficiency
- Scania twin-SCR system (EU6)
- HGR - Heat gas recirculation
- Increased cylinder pressure - 250 Bar
- Optimised gas pulse utilisation
- Optimised XPI injectors
- Improved combustion
- Enhanced gas exchange
- Optimised high pressure fuel pump
- Reduced internal friction
- Improved cooling and lubrication
- Increased turbocharger efficiency
- Fully integrated engine management system
- Compression Release Brake (CRB)
- Updated alternators, with 150-360A possible through single or double configuration
- New air compressor with clutch

### Renewable fuel compatibility

Our 13-litre engine variants are not just very fuel-efficient which lowers emissions in itself – they are also designed to run optimally on renewable fuels such as Hydrotreated Vegetable Oil (HVO) or biodiesel (FAME)\*. This allows for substantially lowered well-to-wheel emissions - instantly. In fact, using HVO typically reduces CO2 emissions by approximately 83% (50-90%), and Biodiesel reduction is typically in the 60% range (50-80%) compared to fossil diesel.

\* With the single exception of the 420 HP Euro 6 variant which is only compatible with HVO.



### Gearbox

The new Scania Opticruise (G25) is both lighter thanks to its aluminium construction, and also shorter due to its precise engineering that has allowed us to remove two synchronisers. With the additional space, a wider gear range has been made possible.

- Better starting performance through improved torque at low RPMs
- Lower revs than before at cruising speed
- Gear shifts are quicker and more responsive
- Increased passenger comfort
- More energy efficient driving

Coupled with our new axles, the efficiency improvements contribute with up to 1.5% fuel savings out of the 8% total savings with the new powertrain.

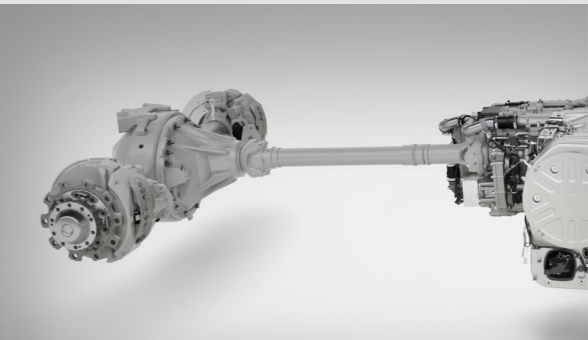


### Brakes

The power to stop is at least as important as the power to go, which is why we have brought updates all across the braking systems.

- A multi-step system with combinations to fit any topography
- Based on an upgraded and improved version of our previous electronic brake system
- A new exhaust brake that comes as standard on our new 13-litre engines
- A new compression release brake (CRB) option
- A brand new powerful 4700 D retarder

Our updated brake systems allow for both better driveability, increased traffic safety and passenger comfort.



### Rear axles

While our reliable R660 rear axle will be available moving forward – specifically used for our plug-in hybrid configurations, we are also introducing two new rear axle options:

- The R716 targets both lower noise and reduced fuel consumption
- The R756 is engineered for heavier traffic with the same reduced fuel consumption
- New AM461 (steered) tag axle

The new axle options provide extended operational lifetime, as well as both faster ratios and lower noise levels to increase passenger comfort.



### Chassis frame

The rear module for the high floor K-chassis has been updated to perfectly fit all the components of the new powertrain in the rear section. This covers The new engine and gearbox, the radiator and the aftertreatment system.

There are four variations for rear-overhang options – all fitting the same dimensions as before. This means bus body designs for our previous chassis variation can be easily fitted to the new chassis.

#### Rear overhang chassis variations:

3080 mm	3280 mm	4385 mm	4780 mm
4x2	4x2	6x2*4	6x2*4

# THE PLUG-IN HYBRID (PHEV) ADDING FLEXIBLE ELECTRIFICATION

Electrification is not an all or nothing concept. Our plug-in hybrid provides a flexible option on the journey towards more sustainable transports, with lowered well-to-wheel emissions and the capability for zero-emission operation.



## A PLUG-IN HYBRID THAT MAKES THE BEST EVEN BETTER

Our plug-in hybrid powertrain offers the best of both worlds. Allowing for operations with zero emissions and noise when needed or desired, and with lowered fuel consumption and emissions in general – while still retaining the range of a conventional powertrain.

- Built using the brand new 13-litre engine
- Dual electric machines
- Using a new 6-speed powershift gearbox, fully replacing the Scania Opticruise used in the conventional powertrain
- Scania built battery packs with in-house developed charging and battery management systems

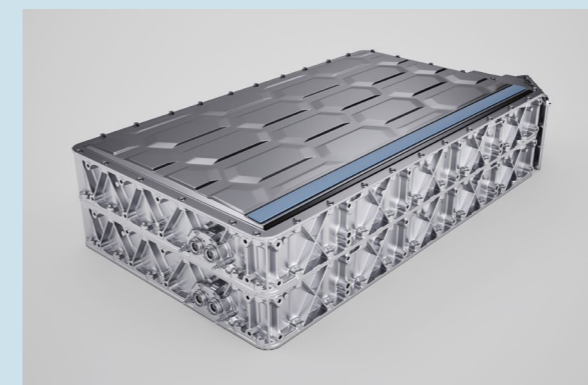
Leveraging the most efficient 13-litre engine on the market, and making it even more efficient and performant by adding on electric machines is a recipe for success. All in all, the plug-in hybrid powertrain is engineered for both performance and flexibility – with four selectable drive-modes: fully electric, hybrid electric, charge sustain, and forced charging. The combination ensures every kWh charged and every drop of fuel, is used to its best potential.



## Dual electric machines

Our gearbox-integrated electric machines are perfectly matched to the new 13-litre engine as a plug-in hybrid design.

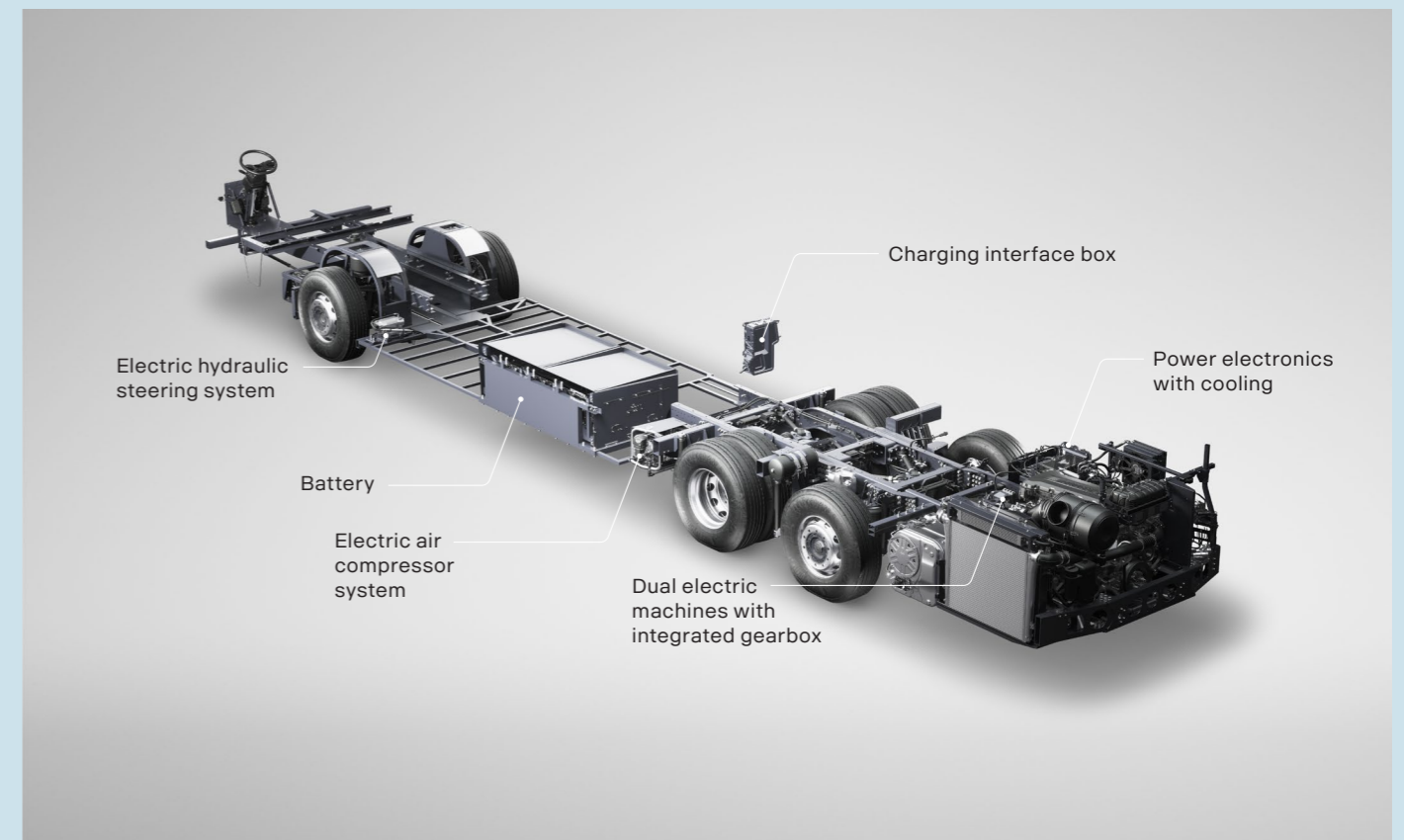
- Dual 145 kW electric machines
- Massive torque from standstill
- Impressive responsiveness even at highway speeds
- Enables operations with zero emissions for up to 80km when operated in fully electric mode
- Provides powerful regenerative braking
- Drive mode switching can also be automated using the Scania Zone service



## Batteries & Charging interface

The electric machines draw power from a Scania in-house built battery pack, designed to allow quick charging with unnecessary wear or impact to battery longevity.

- Up to 80 km in fully electric mode (89 kWh installed energy)
- In-house developed battery management and cooling systems ensure the batteries are kept in optimal condition
- Can be charged at 130 kW and 200 A using CCS type 2, DC plugin charging



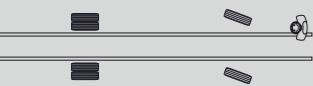
# TECHNICAL SPECIFICATIONS

A CHOICE FOR EVERY NEED,  
EVERY CITY, EVERY ROAD

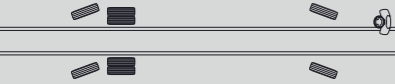
With Scania buses and coaches in operation quite literally all over the world, we know what it takes to cover every prerequisite – and offer engine variations for various emissions regulations and power levels, rear axle options and brake systems for every topography, and chassis variations for a variety of vehicle and road conditions.

## Wheel configurations

4x2



6x2\*4



## PHEV wheel configurations and power options

Our new plug-in hybrid bus and coach powertrains are available for both 4x2 (3280 mm) and 6x2\*4 (4385 mm & 4780 mm) wheel configurations, combining the gearbox-integrated dual e-machine solution with either the 420 hp or 460 hp 13-litre engine depending on performance needs.



### Power, torque and performance options

For the latest updated power and torque curves for both the conventional 13-litre engine and plug-in hybrid options – visit your local Scania website or [Scania.com](https://www.scania.com).

## Axle options

### R660 – The perfect match for our plug-in-hybrid powertrains

- Offering the right ratios for performance even at highways speeds
- Comfortably and reliably handles the immense torque from our electric machines

### R716 – Engineered for lower noise levels as well reduced fuel consumption

- Pinion offset for reduced noise
- New faster ratios available, 2.28 and 2.53
- Lowered friction through new bearing arrangements and low oil viscosity

### R756 – Engineered for heavier traffic as well reduced fuel consumption

- Reduced pinion offset, less sliding better efficiency
- Gear ratio range from 1.95 to 4.11
- Up to 27 kg Lighter compared with previous heavy-duty R780 axle

### AM461 – Designed to perfectly match the new rear axle options

- AM461 is our steered tag axle
- Available for R660, R716 and R756

## Brake systems

### Updated Electronic Brake System – EBS 9

- Updated to latest electrical and security ISO standards
- Improved ABS control
- Increased security system
- Available for NF 4x2, 6x2\*4

## Auxiliary braking systems

### New exhaust brake

- Comes as standard on the new 13-litre powertrain platform
- Located in the exhaust pipe after the turbocharger, enabling braking torque through engine backpressure.
- Maximum engine brake torque: 200 kW

### New Scania Compression Release Brake (CRB) option

- Fully integrated in cylinder head
- Electronically controlled, electric/hydro-mechanic activation on all 6-cylinders
- Fuel injection 100% shut-off
- Excessive heat discharged to exhaust system
- No shortened service intervals
- Can in many cases replace the retarder brake for buses
- Maximum engine brake torque: 350 kW

### New Scania retarder 4700 D option

- Standard when choosing retarder option for the G25CM gearbox (G25CM R)
- Hydraulic auxiliary brake
- Integrated with the gearbox
- Mechanical clutch allowing complete disengagement for reduced fuel consumption
- Weight: approx. 110 kg
- Maximum brake torque: 4700 Nm

