



i3LE AND i4

# SCANIA IRIZAR



**SCANIA**



# DESIGNED FOR SUSTAINABLE AND EFFICIENT MOBILITY

Based on solid engineering experience, our new generation of buses has been developed to meet the demands of today's and tomorrow's cities. Energy efficient and available in a wide range of powertrains, it offers the latest technology in everything from safety systems to reduced emission and noise levels. And through excellent uptime and fuel economy, Scania Irizar buses allow sustainable mobility to go hand-in-hand with operating economy.

## **For a better city environment**

Having the right vehicle for the operation and using it efficiently is the best way to minimise environmental impact. We offer hybrid electric buses and engines running on all commercially viable renewable fuels – biodiesel/FAME, HVO and biogas powertrains, in order to meet the requirements of all urban operations and short distance operations. Through high quality vehicles and innovative technical solutions, maintenance, and a range of driver services, we address fuel efficiency from all angles, helping operators to reduce emissions and fuel costs.

To create a positive passenger experience, our buses have independent front suspension that makes the ride more comfortable. New isolation materials used in the bus help minimise noise levels, and the new internal design and quality of the materials creates a bright, spacious and welcoming passenger environment. To further increase the appeal of public transport, the bus also has an attractive exterior design.

To help prevent accidents and create a safer city environment, our buses have the most modern active safety systems and features. These help the driver by increasing their awareness of other road users, and even help to control the vehicle when required.

## **Energy efficiency lowers operating cost**

Public transport operators know the importance of keeping operating costs to a minimum, and fuel consumption is one of the main contributors to cost. An energy efficient powertrain can therefore offer significant savings in fuel. We develop and offer highly energy-efficient powertrains, both traditional and electrified. Compared to previous models, our new generation of buses offer greater potential savings in terms of reduced fuel and emissions, without compromising on performance. This is achieved through a number of factors, with the most significant savings coming from improved engine and gearbox efficiency, weight reductions, improved aerodynamics and the addition of a start/stop function. Beyond the powertrain, driving style has a major impact on fuel consumption. The drivability of our vehicles and our driver assistance systems, as well as our driver services, can potentially contribute to further fuel savings of up to 10%.

## **Ensuring availability through reliable solutions**

To make urban operations cost-effective, it is important to reduce downtime and increase usage. Our buses are based on proven technology and components, which results in body, chassis and



drivelines that are reliable, durable and robust. That reliability is the key to minimising time in the workshop and maximising the use of the vehicle. Our buses are designed and engineered to ensure that sensitive and expensive components are protected in the event of a collision. Limiting damage and avoiding deformation of components such as the steering, aftertreatment system, and batteries is critical for minimising costs and reducing complex and time-consuming repairs. In addition, our buses are designed to facilitate maintenance and make it as efficient as possible. Here, Scania, in close collaboration with Irizar, takes full responsibility for excellent spare parts availability, with maintenance and repair provided by professional Scania workshops, supported by technical expertise from Irizar in relation to the body.

#### **Excellent passenger capacity**

Our buses allow operators to keep costs down by minimising the number of vehicles required during peak hours; high axle load capacity, reduced chassis and body weight, and new interior layout options mean vehicle weight can be kept down while increasing passenger capacity.

#### **A first-class driver area**

A bus operating in urban traffic is constantly exposed to the risk of external damage and the work environment for the driver can be very demanding. A quality driver environment can therefore play a crucial role in reducing the risk of collisions, downtime and sick-leave, while increasing employee retention. The driver area in our buses is excellent with a great turning radius, good visibility, and an overall well-balanced vehicle makes for excellent driveability, while advanced driver assistance systems give the driver enhanced control of the vehicle through improved assisted handling, steering and braking. This increases safety and helps minimise accidents and the associated costs. Due to the demanding work environment, operators also face challenges when it comes to sick leave and employee retention; that's why we've carefully designed an ergonomic work environment for drivers.

## Powertrains

The low entry Scania Irizar i3LE and short distance-intercity Scania Irizar i4 offers a wide range of energy efficient and reliable powertrains optimised for inner-city and suburban traffic.

Hybrid electric (Euro 6)	Output	Torque	Emissions control	Fuel options
9-litre engine	320 hp (235 kW)	1600 Nm	SCR	Biodiesel, HVO, diesel
Electric motor	130 kW	1030 Nm		

  

Euro 6	Output	Torque	Emissions control	Fuel options
7-litre	280 hp (206 kW)	1200 Nm	SCR	Biodiesel, HVO, diesel
9-litre	280 hp (206 kW)	1400 Nm	SCR	HVO, diesel
9-litre	320 hp (235 kW)	1600 Nm	SCR	Biodiesel, HVO, diesel
9-litre	360 hp (265 kW)	1700 Nm	SCR	Biodiesel, HVO, diesel
13-litre	370 hp (272 kW)	1900 Nm	SCR	HVO, diesel
Fuel capacity: 140–400 litres				
9-litre	280 hp (206 kW)	1350 Nm	EGR	Biogas, natural gas
9-litre	340 hp (250 kW)	1600 Nm	EGR	Biogas, natural gas
Fuel capacity: 1260–1875 litres				

  

Euro 5	Output	Torque	Emissions control	Fuel options
9-litre	280 hp (206 kW)	1400 Nm	SCR	Biodiesel, HVO, diesel
9-litre	320 hp (235 kW)	1550 Nm	SCR	Biodiesel, HVO, diesel
9-litre	360 hp (265 kW)	1700 Nm	SCR	Biodiesel, HVO, diesel

  

Euro 3	Output	Torque	Fuel options
9-litre	250 hp (184 kW)	1250 Nm	Biodiesel, HVO, diesel
9-litre	310 hp (228 kW)	1550 Nm	Biodiesel, HVO, diesel

## Axles, lengths

The urban Scania Irizar range is available in different versions and several options for door configurations to be able to meet the different demands of passenger capacity and flow.

## Heights

The heights may vary depending on market, powertrain and configuration.  
i3: 3.399 m  
i4: 3.405 m

### i3LE, 2-axles



10.95 m



12.0 m



12.75 m

### i3LE, 3-axles



14.0 m



14.9 m

### i4, 2-axles



10.8 m



12.2 m



12.9 m

### i4, 3-axles



14.0 m



15.0 m

# PRODUCT DESIGN FEATURES

Our buses are produced in a long-standing partnership between Scania and Irizar. Everything from the chassis construction to the powertrain and the body has been developed and thoroughly tested with a focus on reliability and performance without compromising on energy efficiency.

## Battery packs

The battery packs for hybrids are placed on the roof, creating a well-balanced bus with excellent driveability and ride comfort.

## Battery temperature control

Battery pack temperature is controlled by a closed-water cooling system. In very cold or very hot ambient temperatures the water cooling is assisted by an electric heater or a A/C cooling respectively.

## Powertrain technology

The highly dependable, durable, and robust powertrains enable fuel savings, achieved through a number of factors such as; engine efficiency (-6%), improved gearbox (-3%), weight reduction (-3%) and the addition of a start/stop function (-6%).

## Floor heights

The Scania Irizar i4 has a high degree of adaptability to the needs of customers with the availability of several finishes and floor heights.

- H version, with central aisle, is designed for medium distance routes.
- M version, with a flat floor, is adapted for persons with reduced mobility, both in the front and the rear.
- L version, is designed for short-distance lines with frequent stops and many standing passengers. Has a low floor for better accessibility.



## Chassis frame construction

The strengthened front axle, in combination with the ability to now use wider tyres, means that load capacity is up to a maximum of 8.2 tonnes. This allows higher passenger capacity. It also enables optimised weight distribution between the front and rear axles – especially important for gas and electric vehicles.

## Fuel tanks

Available in several volume options suitable for urban operations. The shape of the 140–360 litre (usable volumes) fuel tanks is optimised for the inner layout to enable seat mounting closer to the wheelhouses.



#### Front suspension technology

Without compromising on passenger capacity, the new independent front suspension offers excellent passenger comfort and enables a wider aisle (900 mm) – resulting in new layout possibilities, increased passenger flow, space and accessibility. The new rigid front suspension also increases passenger capacity and offers good passenger comfort.

#### Electric system

The new power supply architecture comes with improved electronic control units (ECUs) and functions that improve performance and facilitate diagnostics for repair and maintenance. It also enables new functionality within ADAS, e-mobility and autonomous transport systems.

#### Exterior design

Buses are a natural part of the cityscape, and the new Scania Irizar i3LE and i4 has an attractive, strong and distinctive exterior character with an urban spirit; a metropolitan design, lighter and more aerodynamic. Additionally, accessibility and functionality, adheres to the most stringent regulations.

#### Interior design

The accessibility and spaciousness of the interior create an attractive passenger environment, boosting the appeal of public transport.

- Carefully designed seating ergonomics.
- Reduced noise emissions and vibrations.
- Climate control and versatile fixtures and fittings enhance passenger comfort.
- New materials and modern manufacturing technologies improve durability, ageing, and recyclability.

#### Driver area

Offers a spacious and ergonomic environment with great visibility, safety, comfort, and driveability.

- Excellent ergonomics and reachability – with accessible controls and electronics integrated into a single central console.
- High visibility – new windscreen with greater curvature, improved rear-view mirrors and integrated radar in the centre of the front end.
- Increased safety with electro-pneumatic parking brakes.
- Excellent drivability – great turning radius, advanced driver assistance systems, and improved assisted handling, steering and braking.
- Updated lever design.
- New dashboard design, enables integration of vending machines and SAE systems.

#### Safety features

Scania Irizar buses have advanced driver assistance systems (ADAS) including vulnerable road user collision warning, blind spot warning, adaptive cruise control, attention support, and advanced emergency brakes. Further, electro-pneumatic parking brake technology avoids unintentional bus motion and thus potential accidents. Through reinforced chassis construction, our buses are built to protect sensitive components.

## Product specifications

### General

**Wheel configuration:** 2-axle, 3-axle with steered tag axle

**Door configuration:**

i3LE: 1-2-0, 2-2-0

i4: 1-1-0, 1-2-0

### Dimensions

**Length:**

i3LE: 10.95 m, 12.0 m, 12.75 m (2-axle)

14.0 m, 14.9 m (3-axle)

i4: 10.8 m, 12.2 m, 12.9 m (2-axle)

14.0 m, 15.0 m (3-axle)

**Width:** 2.55 m

**Height:**

i3: 3.399 m

i4: 3.405 m

May vary depending on the market, powertrain and configuration.

### Passenger area

**Seating:** Irizar seats as standard or customer choice, manual or automatic wheelchair lift at the middle door or manual in front door, four priority seats with folding armrests, location for wheelchair or pram, folding seats, reading lamp and air nozzles

**Equipment:** Luggage rack, camera surveillance, infotainment system (Wi-Fi), interior LED or fluorescent lighting

**Roof hatches:** Electric or fixed

### Driver area

**Seating:** Heated driver seat ISRI

**Instrument panel:** Adjustable or fixed

**Support systems:** Scania Driver Support, electro-pneumatic parking brake, adaptive cruise control, vulnerable road user collision warning, blind spot warning, lane departure warning, hill-hold

**Equipment:** Audio system, announcement system

### Destinations signs

**Placement:** LED destination sign in front, side and rear

### Climate system

**Heating and cooling:** Convector circuit in passenger area, auxiliary heater (diesel or gas), defroster, separate or combined air conditioning for the driver, temperature-controlled ventilation and AC for passengers

### Powertrain – Hybrid electric (biodiesel, HVO, diesel)

9-litre engine 320 hp (235 kW), torque 1600 Nm

Electric motor 320 hp (130 kW), torque 1030 Nm

**Gearbox:** 12-speed with Scania Opticruise

### Powertrain – Combustion, Euro 6

**Biodiesel, HVO, diesel:**

7-litre 280 hp (206 kW), torque 1200 Nm

9-litre 320 hp (235 kW), torque 1600 Nm

9-litre 360 hp (265 kW), torque 1700 Nm

**HVO, diesel:**

9-litre 280 hp (206 kW), torque 1400 Nm

13-litre 370 hp (272 kW), torque 1900 Nm

**Fuel capacity:**

140–400 litres (2-axle) for high floor 140–275 litres

140–400 litres (3-axle)

**Biogas, natural gas:**

9-litre 280 hp (206 kW), torque 1350 Nm

9-litre 340 hp (250 kW), torque 1600 Nm

**Fuel capacity:** 1260–1875 litres

**Gearbox:**

12-speed with Scania Opticruise

6-speed fully automatic with acceleration control

### Powertrain – Combustion, Euro 5

**Biodiesel, HVO, diesel:**

9-litre 280 hp (206 kW), torque 1400 Nm

9-litre 320 hp (235 kW), torque 1550 Nm

9-litre 360 hp (265 kW), torque 1700 Nm

### Powertrain – Combustion, Euro 3

**Biodiesel, HVO, diesel:**

9-litre 250 hp (184 kW), torque 1250 Nm

9-litre 310 hp (228 kW), torque 1550 Nm

### Electrical system

**Equipment:** Halogen or bi-xenon headlights, Bi-LED, LED daytime running, position and indicator lights, LED side and rear lights

Battery 150 Ah, 180 Ah, 230 Ah or dual battery system

Alternator 150 A, 180 A, 2x150 A or 2x180 A

### Brake and safety equipment

**Equipment:** Disc brakes, electronic brake system (EBS), anti-lock brake system (ABS), traction control (TC), integrated retarder, bus stop brake, rear view camera, fire extinguishing equipment in the engine compartment

### Suspension and wheels

**Front suspension:** Independent or rigid, kneeling front door, whole front or whole side, automatic or manual control, total raising and lowering

**Rims:** Aluminium or steel

**Tyres:**

Low entry: 275/70, 275/80, 295/80, 305/70, 315/60, 315/70 (front)

275/70, 275/80, 295/80, 305/70, 315/60, 315/70, 315/80 (rear)

275/70, 275/80, 295/80, 305/70, 315/60, 315/70, 315/80, 385/65 (tag)

High floor: 275/70, 275/80, 295/80, 305/70, 315/60, 315/70, 385/65 (front)

275/70, 275/80, 295/80, 305/70, 315/60, 315/70, 315/80 (rear)

275/70, 275/80, 295/80, 305/70, 315/60, 315/70, 315/80, 385/65 (tag)

### Doors and windows

**Optional:** Tinted windows, single or double-glazed side windows, double doors, inswing or sliding, doors at customer's choice



## SERVICE OFFERING

Our offering consists of a number of services for minimising emissions, increasing safety, and improving operating economy, focusing on areas like fuel efficiency and uptime. These services allow us to provide solutions to each operators' individual challenges and needs.

Scania's data services generates insight and create business value through anything from position and speed to performance and driving style. Scania's data API's comply with the rFSM standards 1.x and 2.x.

### Driver services

Enables drivers to drive safer and more efficient, and can reduce the need for maintenance.

#### Scania Driver Training

Combines theory and practice, covering topics such as safe and efficient driving, especially important when it comes to electrical vehicles, not only to save energy but even regenerate energy by optimal driving. Handles also other aspects of professional driving, always with a focus on profitability, fuel economy and reduced emissions.

#### Scania Driver Evaluation

An on-board device that assesses the driving style by comparing it to that of drivers operating in similar conditions. The result, which can be used to achieve long term improvements, is visible in the Scania Fleet Management Portal and Scania Fleet App.

### Tachograph services

The fleet is monitored via the tachograph portal, facilitating compliance with EU regulations regarding driving and working time. A tool that provides in-depth insights into driver activities and vehicle use, thus helping operators maximise uptime, comply with laws and regulations and meet health and safety requirements for drivers.

### Fleet management services

The data collected on board the buses provides valuable insight into driving styles, productivity and economy. This level of tracking and diagnostics can bring significant benefits in terms of increased uptime, improved safety and reduced operating costs. Through the Scania Fleet Management Portal and the Scania Fleet App, operators can gain access to valuable insights and reap the benefits.

#### Scania Zone

A position-based system for real-time vehicle adjustments in pre-defined zones. It allows operators to ensure that each vehicle stays within the set speed limits, increasing city safety and lowering fuel consumption. Scania Zone is an optional add-on in Scania's fleet management system.

### Repair and maintenance services

Having access to professional workshops and quality spare parts is key to keeping the vehicles in prime condition. Scania offers a range of repair and maintenance services:

#### Scania Flexible Maintenance

Uses real-time vehicle data to produce maintenance plans tailored to each vehicle's actual operation. This is done by continually monitoring and analysing operational data to ensure maximum uptime and schedule maintenance customised to the operations, thus increasing productivity and decreasing disruptions.

#### Scania Fleet Care

The fleet operator receives a dedicated Fleet Manager from Scania equipped with advanced tools and systems, to optimise maintenance and prevent breakdowns based on operational data and vehicle data analysis.

#### Customer workshop services

A tailored collaboration service designed to facilitate for the operator by streamlining and quality assuring the workshop and workshop processes to meet Scania standards.

#### Scania Irizar service team

In close cooperation, Scania and Irizar offer comprehensive and high-quality services to keep the vehicles in peak condition, increase utilisation and improve operating economy. Well-established and trusted service networks offer technicians regular service training with training material developed in multiple languages, assuring professional technical support 24/7.

Scania and Irizar are both suppliers operating on the global market, and provide spare parts through consignment stock, online ordering systems, and more.