COMMERCIAL CRAFT

# MARINE POWER SOLUTIONS


SCANIA

# BECAUSE PERFECTION PAYS

After more than a century's experience of designing and building state-of-the-art engines for the most demanding applications, we know one thing for certain: everything starts with your needs. Therefore, industry-leading expertise and professional advice are natural parts of our offer. We assist you in creating tailored marine power solutions made to match the tough demands of your operation.

**90,000 proofs of excellence – a year**
Renowned for industry-leading quality and over a hundred years of engineering expertise, Scania is considered one of the world's leading manufacturers of trucks, buses, and engines for industrial and marine applications. Each year, we produce around 90,000 engines and every unit is designed and manufactured in-house. They are the result of proven technical solutions based on constant development and cutting-edge technologies.

**The benefits of completeness**
From the very first drawings and throughout the vessel's service life, Scania stands by your side. Our complete power solution consists of everything from quality products to professional pre-installation guidance services and outstanding aftermarket support. This will help you safeguard operational efficiency and contribute to higher productivity.

**Your new business platform**
The heart of the Scania marine power solution is the 9-, 13-, and 16-litre marine engines. They handle every challenge with confidence – from propelling planing vessels to pushing heavy barges upstream and managing heavy-duty auxiliary applications. The engines, as well as the electrical systems and instrumentation within the Scania marine power solution, are all type-approved by the leading classification associations.

Our reliable, efficient, and compact engines span from 220 to 1,150 hp and are built on Scania's global modular platform. Numerous options of transmissions, cooling systems, instrumentation, and additional equipment enable almost unlimited possibilities to create a solid foundation for your business.

# OUR POWER SOLUTION

**Propulsion**

Our engines for propulsion deliver massive power, impressive torque and outstanding fuel efficiency for a dependable and cost-efficient operation.

**Auxiliary**

Our engines for auxiliary applications deliver reliable power supply with outstanding fuel economy and low emissions.

**Transmission**

Being a vital component of the powertrain, an optimised factory-fitted transmission that carefully matches our engines contributes both to overall performance and economy.

**Instrumentation**

The entire system is made up of modular units and type-approved. Thanks to seamless integration with the engine management system and intuitive interfaces, it simplifies handling and keeping control of engine performance and operating economy.

**Aftertreatment system**

Taking advantage of proven technologies, we have introduced our SCR system in the IMO Tier III engines.

The Scania marine power solution is a complete and flexible concept of products and services that provides industry-leading quality all the way from pre-installation to aftermarket support. With our help, you can boost your operation by improving reliability, performance, emission control, and operating economy.

**Professional guidance and specifications**

Based on close co-operation between our application engineers and the customer, the pre-installation phase paves the way for cost-efficient production and optimised end-products.

**Installation support and manuals**

Throughout the building and installation process, we provide professional support as well as the installation manuals required to ensure correct configuration and trouble-free installation.

**Installation review**

Thorough inspection and on-water test runs conclude the installation process. When the installation complies with Scania's requirements, the Scania Installation Approval is signed by the Scania representative.

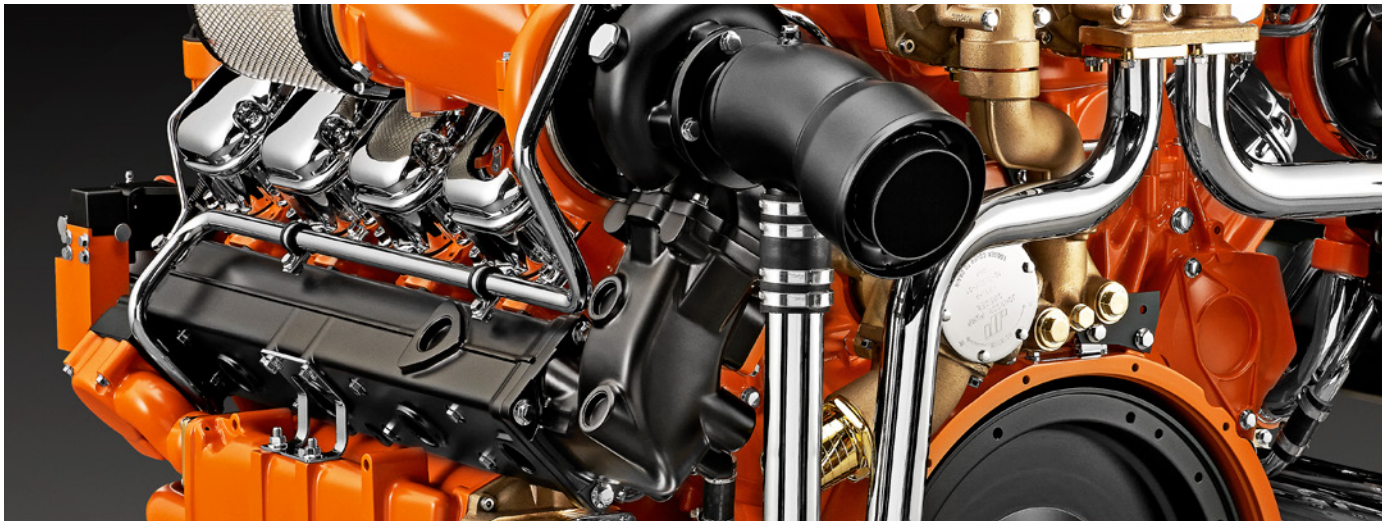
**World-wide service network**

Our global parts logistics network and more than 1,900 service workshops all over the world, vouch for outstanding availability and maximum uptime.

**Sustainable business value**

As an example, the IMO Tier III engine range significantly reduces emissions, with nitrogen oxides reduced by more than 70 per cent.


PILOT



# POWER FOR PLANING VESSELS

Saving weight is the obvious way to reduce fuel consumption and increase performance of any planing vessel. Thanks to the unrivalled power-to-weight ratio and compact dimensions of the Scania marine engines, boat designers have great opportunities to optimise the installation and set new standards in operational efficiency and profitability. A bold statement perhaps, but Scania marine engines really are the lightweight champions in this field.

**Powered for heavy-duty work**
When powered by Scania, you can expect instant response, uncompromising torque at low revs and relentless performance at any speed.

Allowing high average load factors, the Scania engine is the natural choice for heavy-duty operation in rough conditions. If you cannot afford to lose time, you have got everything to gain with a Scania engine.

**Always ready for action**
Scania has an outstanding track record of uptime and reliability. With extreme durability and long service life, Scania's marine engines contribute to safe operation and low operating costs for demanding applications like patrol crafts, sea rescue vessels, pilot boats and wind farm support vessels.

**Absolutely adaptable**
Our engines feature a flat power curve before the engine speed reaches its maximum. This makes it easier for boat designers to match engine and propeller for the best operating economy. Repowering is also simplified and in many cases it is even possible to keep the existing transmission and propeller.

# POWER FOR DISPLACEMENT VESSELS

Scania's proven record of outstanding fuel economy, reliability and uptime is even more reinforced with the IMO Tier III engine range, delivering unparalleled operating economy for displacement vessels. The prompt engine response and uncompromising low-rev performance enhance acceleration while significantly reducing the nitrogen oxide emissions.

So, if you really want to push the limits of endurance, productivity and environmental performance, Scania is the choice for you.

**Environmental performance**
Pushing a displacement hull through the water is a tough job, especially when fighting upstream or against the waves. Therefore, every part of the propulsion system must be optimised in order to keep fuel consumption as low as possible. Scania is renowned for industry-leading fuel efficiency irrespective of emission standard, and a given choice for anyone who seeks to optimise fuel economy without compromising performance.

**A reliable partner**
The dependability and uptime that Scania provides is perfectly suited for barges, fishing boats, pushers, tugs, and similar applications. Providing long service intervals, high parts availability and easy servicing for a single technician, our engines contribute to minimise downtime and lower the costs for service and maintenance. If you know one Scania engine, you know them all. And with a global network of Scania workshops, expert advice and Scania parts are never far away.

**Ready to take on any challenge**
The outstanding product quality, durability and long service intervals make Scania's engine platform fit for any challenge. And thanks to the modular product system and the adaptability to different demands there is a Scania solution for every work boat application.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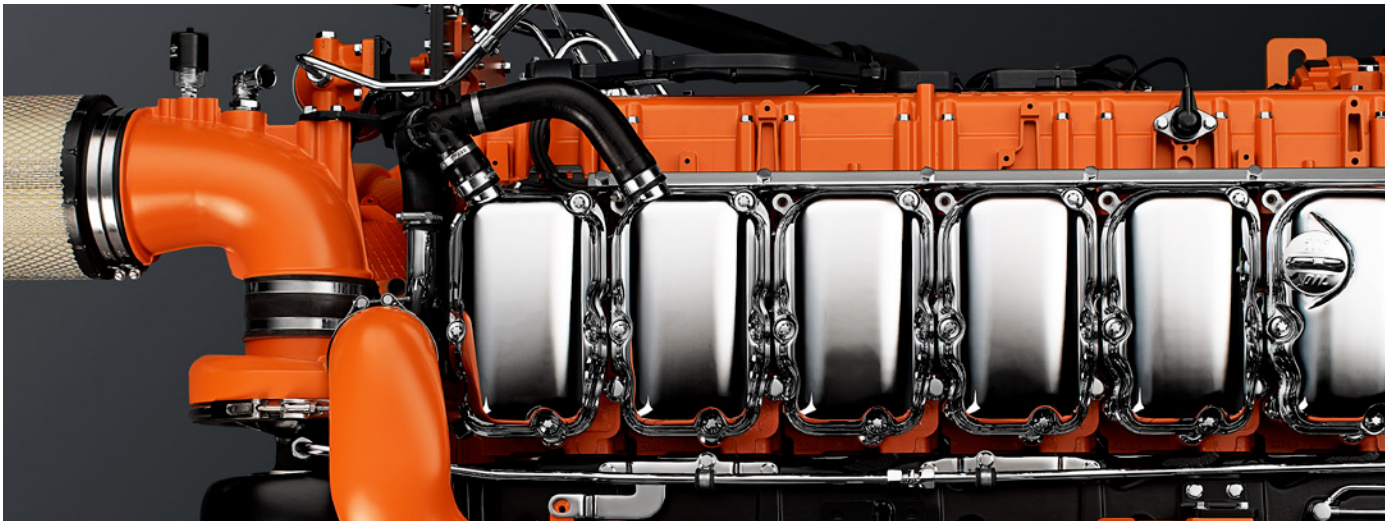


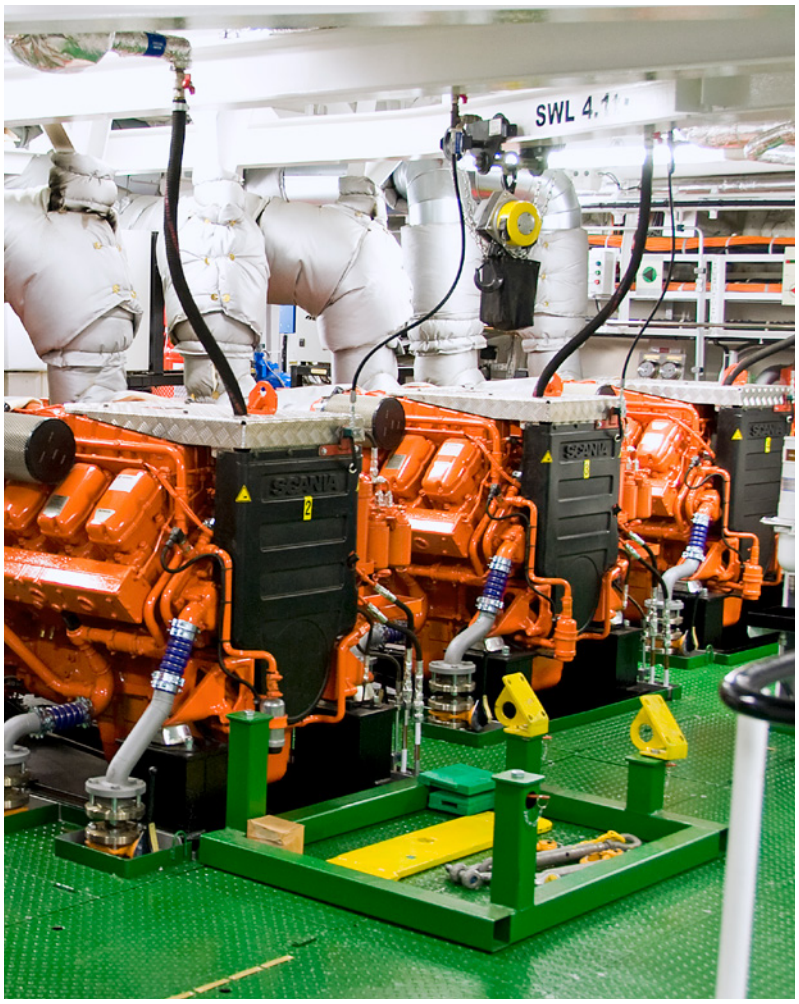
# POWER FOR AUXILIARY APPLICATIONS

Featuring documented reliability, fuel efficiency and operating economy, the IMO Tier III engine range produces significantly reduced exhaust emissions with proven SCR emission control technology developed in-house. Compact design, unlimited adaptability and standard interfaces allow easy installation and seamless integration irrespective of application.

**Optimised solutions for diesel electric propulsion**
In any modern diesel electric propulsion system every single part plays a crucial role. And everything starts with the diesel-fuelled generator engines. With multi-set installations of Scania units you reap all the benefits of our vast experience: the perfectly optimised IMO Tier III engines deliver reliability and redundancy together with class-leading environmental performance and fuel economy.

**Exceptional step-load handling**
Scania-powered emergency sets are always ready to meet the toughest requirements. Whatever the cause of power loss, the Scania unit will respond instantly. Our engines are designed to handle high load variations effectively, with a minimum of recovery time.

**Less input. More output.**
Irrespective of size and number of cylinders, engines from Scania deliver a combination of cutting-edge fuel efficiency and extraordinary power resources. The result? More than sufficient power output and low operational costs.




# FROM DESIGN TO INSTALLATION

**An engine for every application**
Our engine range spans from 9- and 13-litre inline engines up to the 16-litre V8. With power output reaching from 220 to 1,150 hp (162 to 846 kW) for propulsion applications and from 199 to 640 kW for auxiliary applications, the range covers a wide spectrum of applications. In addition, our renowned modular product system means that our engines are built on the same platform and with the same footprint for all sizes and emission stages. This contributes to a simplified and cost-efficient design and installation process, as well as facilitated servicing and outstanding parts availability.

**Optimisation and application support**
When industry-leading experience meets tough customer demands and bright design ideas, great things happen. By taking part in your process as early as possible, the Scania application engineer is able to help you make things right from the beginning, thus contributing to smart solutions, cost-efficient installation and optimised end-products. Based on analysis of your needs, the Scania engineer suggests an optimised configuration including technical specifications. The final tailored solution, along with technical information, drawings and 3D models are all parts of our pre-installation package. The next stage, the installation, is supported by comprehensive installation manuals and continuous guidance of the Scania application engineer.

**Installation approval**
The Scania installation approval program is part of and concludes the installation process, including thorough inspection and participation at the sea trial. The purpose of the test runs is to make sure that the entire system performs according to specifications. Engine temperature, load at rated engine speed, boost pressure and boat speed are examples of parameters being measured with diagnostic tools. The results are collected, analysed and commented in the Scania installation report. When necessary, Scania will help with suggestions to improve the installation. As soon as the installation complies with Scania's requirements for ideal performance, the installation approval is granted.

# THE ULTIMATE UPTIME SOLUTION

**Maximise your uptime**
To most marine professionals, downtime is really bad news. And the longer the standstill, the harder it hits the bottom line. With this in mind, every part of the Scania marine solution is developed to maximise uptime. All the way from our engines and other hardware, to the optimisation of the products and the dedication of the people who are standing by to support you.

Further, taking the right care of machinery and equipment is key to prevent unexpected downtime. Scania's maintenance programs, as well as technical documentation, manuals and education programs, are developed in order to strengthen your competitiveness.

**Outstanding parts availability**
Scania's parts logistics network is one of the most advanced and reliable in the world. The global system comprises a central hub, satellite warehouses on every continent and, of course, your local Scania representative. Our efficient network, together with our unique modular concept, enable us to deliver the right part at the right time and in the right place – and this is essential in order to maximise uptime.

**Worldwide service network**
With a network of more than 1,900 service workshops all over the world, professional service is never far away. A large share of our authorised workshops are ready and reachable 365 days a year, thus ensuring maximum uptime and excellent operating economy.

# PURE SCANIA. DOWN TO THE NANOMETRE.

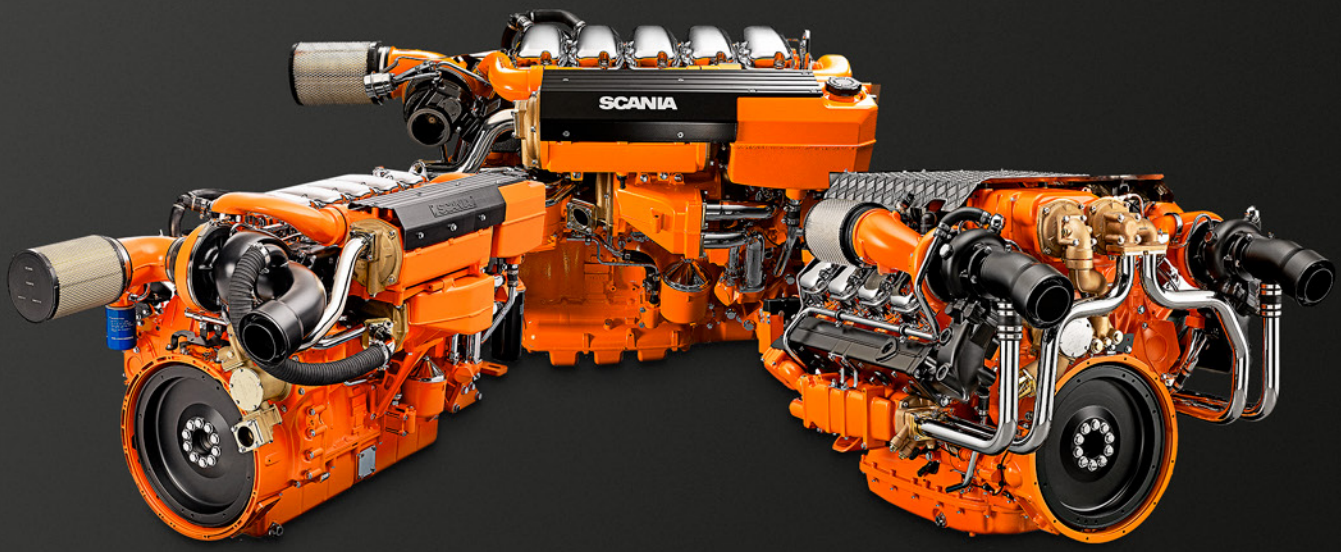
Our engines, along with the aftertreatment systems, are 100 per cent designed and built in-house. They are known for industry-leading standards of quality and dependability. All engines, as well as the electrical systems and instrumentation within the Scania marine solution, are type-approved by the leading classification associations.

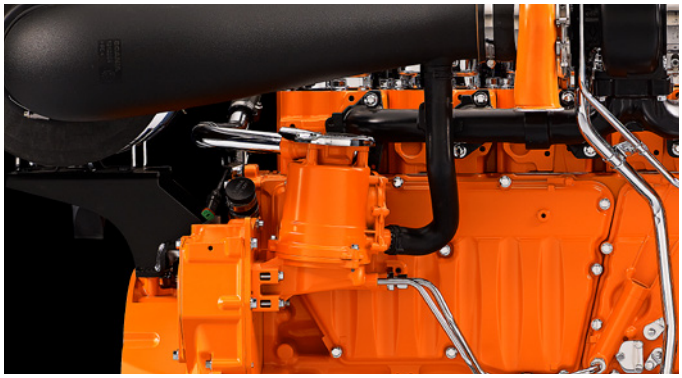
Taking advantage of proven Scania technologies as a basis for development, our engineers continue to take pioneering leaps. While our engines constantly become cleaner and more fuel-efficient, they still deliver the power and torque you have come to expect from Scania.

**Our development work keeps full steam ahead**
Being at the forefront of technology is part of who we are and at Scania, we are always ready to provide solutions in accordance with future demands.
Our IMO Tier III engines are some of the latest additions to our marine engine range. The IMO Tier III standard applies to vessels launched from 1 January 2016 in IMO Emission Control Areas (ECA), such as American, Canadian, and Caribic waters. Operators in other environmentally sensitive waters, such as coastal areas and inland waterways, can utilise the environmental performance of Scania's IMO Tier III engine range.

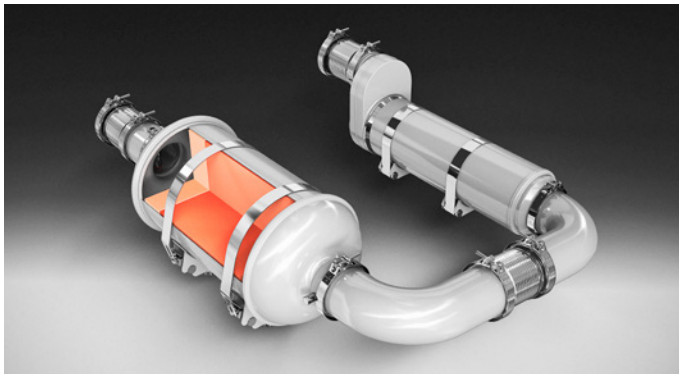
The auxiliary IMO Tier III engines are primarily used in cargo vessels on international waters and for power supply and cargo-pumps, while the propulsion engines are mainly used in passenger ferries on the oceans. Both auxiliary and propulsion engines are suitable for traffic on lakes and waters with particularly strict requirements on low emissions.

Power output for the IMO Tier III range reaches from 350 to 550 hp (257 to 405 kW) for propulsion engines, and from 269 to 596 kW for auxiliary applications.



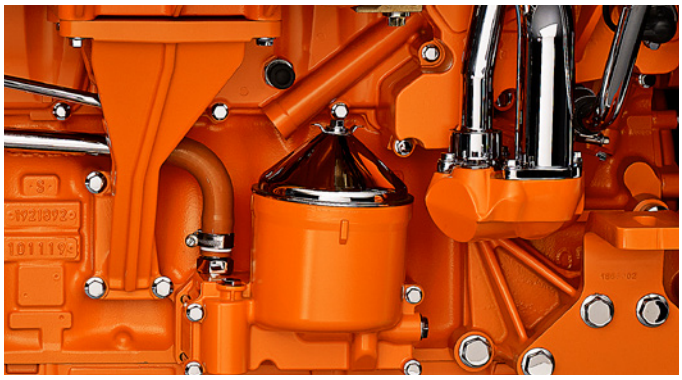


**Scania centrifugal oil cleaner**
A proven and dependable solution for making oil filtration more effective. The oil cleaner combined with the maintenance-free CCV centrifuge reduces wear and costs for downtime. Used with the recommended Scania oil, this solution contributes to the outstanding durability and service life that boat owners all over the world have come to associate with Scania.



**Scania SCR**
Scania SCR (selective catalytic reduction) is a proven aftertreatment system which ensures that exhaust gases are released with minimum nitrogen oxide (NOx) content. By injecting a urea-based additive, AdBlue/DEF (diesel exhaust fuel), into the exhaust, a chemical reaction takes place that converts the toxic nitrogen oxides into harmless water and nitrogen gas. Scania SCR is easy to handle, very reliable and does not affect torque and power output.

**Scania saver ring**
The Scania saver ring is a good example of our in-house developed technologies. Fitted inside the cylinder, the Scania saver ring removes soot and other residue from the upper part of the piston. A unique feature that reduces wear and extends engine life, thus contributing to Scania's enowned dependability and operating economy.



**Scania fuel injection systems**
Scania has 2 fuel injection systems: Scania PDE and Scania XPI (extra high pressure injection), which is a Scania-designed common-rail fuel injection system. Both systems make continuous, precise adjustments to ensure optimal fuel delivery in all conditions without restricting torque build-up and step-load handling. With Scania XPI, pressure can be set independently of engine speed with exceptional precision, meeting performance demands ahead of legislation.

Depending on emission compliance, the rating and output range may vary.
For further details, please check the technical specification sheets on www.scania.com/engines.

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