



SCANIA POWER SOLUTIONS

# ENGINES FOR THE TOUGHEST MISSIONS

SCANIA

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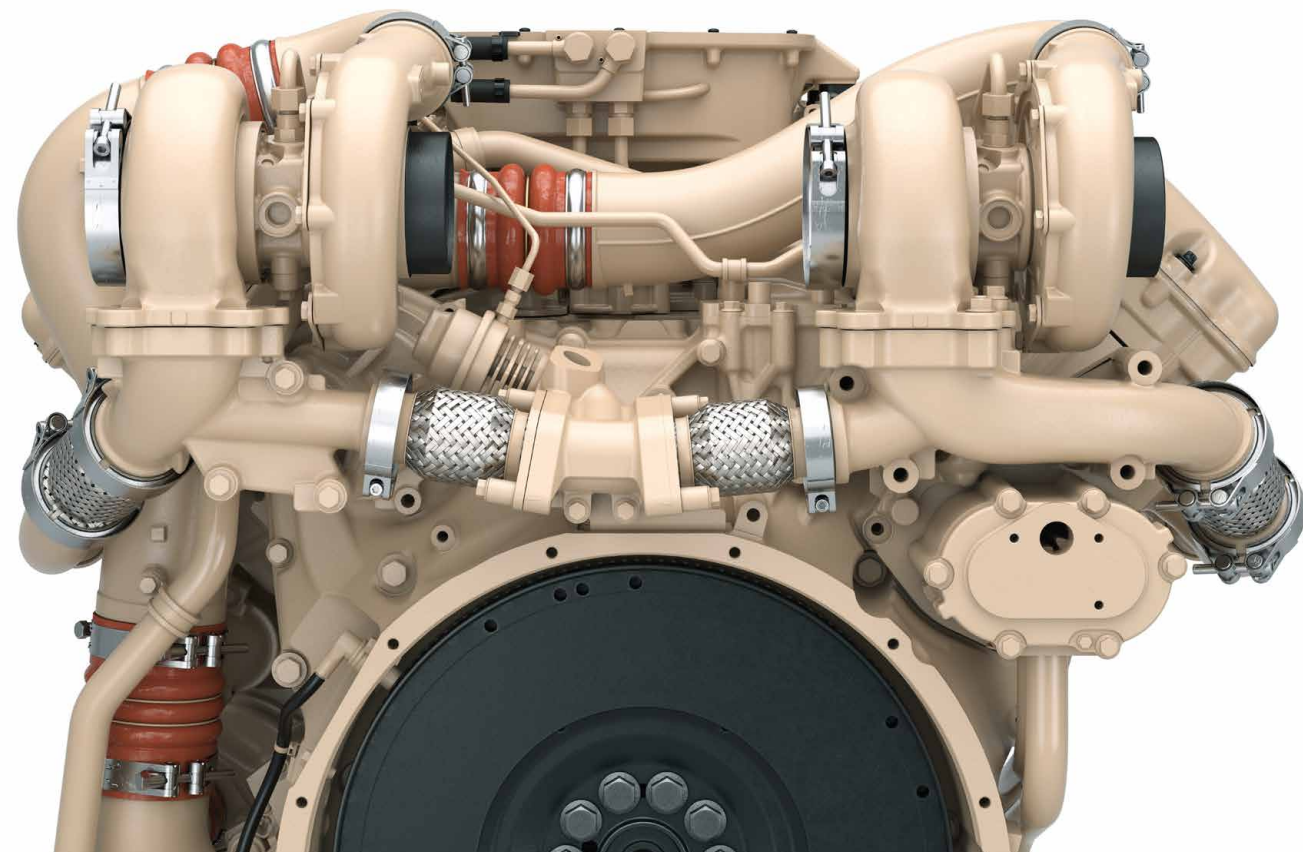
# DEFENCE SOLUTIONS BUILT ON RELIABILITY

Finding the ideal balance between outstanding performance, high uptime and low fuel consumption requires expertise built from knowledge and experience over many years, balancing cutting-edge technology with proven design, continuous improvement and a fully integrated support system. These are the building blocks of the Scania offer, comprising the entire product lifecycle from design and development, production and installation to sustainment and logistic support through to disposal.

For Scania engines, efficiency is the decisive characteristic regarding size and performance, as well as fuel consumption and maintenance. Ranging from 202 kW to 800 kW for land applications, Scania engines are also compact and efficient, as well as easy to install and maintain.

Thanks to rational production with industry-leading quality standards we are able to supply both engines and

parts with very short lead times. Scania modular design principles create customer value through minimising the need of spare parts, workshop equipment, documentation and training, thereby reducing the life cycle costs and downtime. Each of these engines provide leading fuel economy and exceptional torque rating already from low revs, making them suitable for combat vehicles.



## Powered by Scania

This statement represents prominent features and support, applicable to a wide range of engine applications on land and sea:

- Tailored design and support solutions leading to reduced life cycle costs for unique applications
- Global network and support
- High power to weight ratio
- Outstanding fuel efficiency
- Compact dimensions
- Engineered for uptime
- Full in-service support for the engines includes spares, documentation, training, repair and maintenance services
- 100% designed and built inhouse – uncompromising reliability





# HEAVY DUTY PERFORMANCE

The demands in peacekeeping and defence operations are the toughest possible, and there is no room for less than maximum reliability and sustainable performance. Meaning that Scania engines and their Integrated Logistic Support system are in their right element.

Scania power units are perfectly fitted for heavy-duty combat vehicles, in environments where high engine load is default mode. The renowned performance of Scania engines has been proven in a wide variety of operations, for example off-road use in armoured wheeled and tracked vehicles for the Swedish BAE Systems Hägglunds CV90 series, the Finnish Patria 6x6 and AMV XP 8x8 vehicle, the Swiss GDELS Mowag AMV 8x8, the Spanish Tess Defence VCR 8x8 Dragon, to name a few.

#### Scania 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 team analyses your needs from design to installation and suggests an optimised configuration including technical specifications. The next stage, the installation, is cost-efficient and supported by comprehensive installation manuals and continuous guidance.

#### World-wide service network

With more than 1,800 service workshops all over the world, the availability of professional services, assistance and advice leaves nothing to be desired. A great share of our authorised workshops are ready and reachable 365 days a year, thus ensuring high uptime.

#### The benefits of flexible modularity

Throughout the years, Scania has made numerous deliveries of power solutions. Thanks to the proven modular system, we are able to keep a low number of parts which is beneficial for both availability and mechanic skills, as well as reducing life cycle costs. Ultimately, this means that our solutions provide unique flexibility, high uptime and excellent return on investment.





# PURE SCANIA DOWN TO THE NANOMETRE

The Scania engine is 100 percent designed and built in-house. By taking advantage of proven technologies as a basis for development, our engineers continue to break new ground. At Scania, we continuously challenge our own industry-leading standards of quality, dependability, and sustainability. This evolution has led to longer lasting and more fuel-efficient defence engine solutions that deliver the uncompromising power and torque everyone has come to expect from Scania.

## Selection of our available engines



### Next Generation 13-litre engine

The DC13 engine is a turbocharged, 4-stroke diesel engine with XPI fuel system and Scania engine management system.

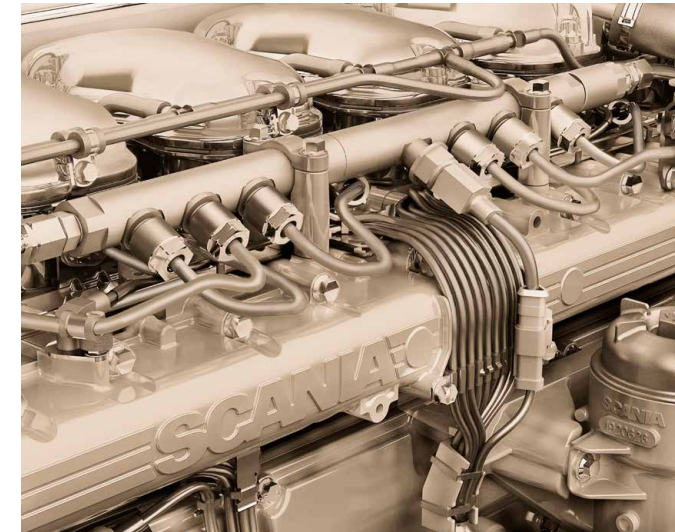
Configuration	6 in-line
Displacement	12.7 litres
Output range	450–540 kW (610–735 hp) 450 kW Euro III equivalent with EN 590 diesel
Fuel requirements	EN 590 diesel Multiple NATO fuel standards



### 16-litre engine

The DC16 engine is a turbocharged, 4-stroke diesel engine with PDE unit injectors and Scania engine management system.

Configuration	V8
Displacement	16.4 litres
Output range	588–800 kW (800–1,088 hp) 588 kW Euro III equivalent with EN 590 diesel
Fuel requirements	EN 590 diesel Multiple NATO fuel standards



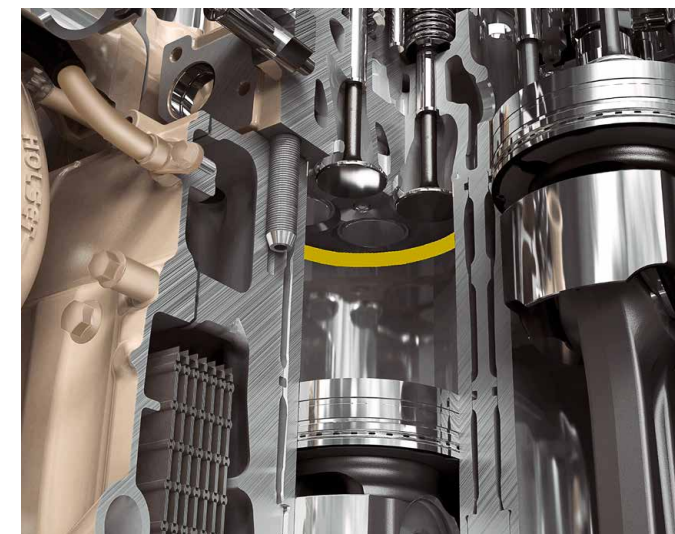
### Scania fuel injection systems

Our PDE and XPI (extra high-pressure injection) fuel systems can make continuous precise adjustments to ensure optimal fuel delivery in all conditions without restricting torque build-up and step load handling. The XPI is a common-rail fuel injections system, designed by Scania and with its pressure can be set independently of engine speed with exceptional precision, meeting future performance demands.



### Scania EMS

To secure control over all aspects of engine performance, as well as emissions, Scania has developed an engine management system that controls all functions electronically – including fuel injection. The Scania EMS (engine management system) provides advanced diagnostics and allows detailed logging of operational data for subsequent analysis. For land applications, Scania can also supply partial EMC-protection.



### Scania saver ring

Fitted inside the cylinder, the Scania saver ring removes soot and other residue from the upper part of the piston, thus contributing to enhanced reliability, less need for maintenance and longer service life.



# POWER INTEGRATION SERVICES

Creating the best possible power solution for manufacturers and users comes down to much more than hardware. Scania's Power Integration Services consists of Installation Support and Power Optimisation and facilitate the industrial process and adapt the power system according to its intended usage. This means we can make sure all the demands are met and tailored to your specific needs.

## Installation support

With Installation Support from Scania, you receive expert advice, guidance, and hands-on help in the early phases. This safeguards a smooth industrial process, that demands are met and ensures that you get the best possible product in terms of reliability and efficiency.

Our goal is to ensure perfection in every phase. That's why Scania's expert engineers are involved throughout the project, providing information, advice, guidance and practical support with design and implementation as well as installation reviews.

## Power Optimisation

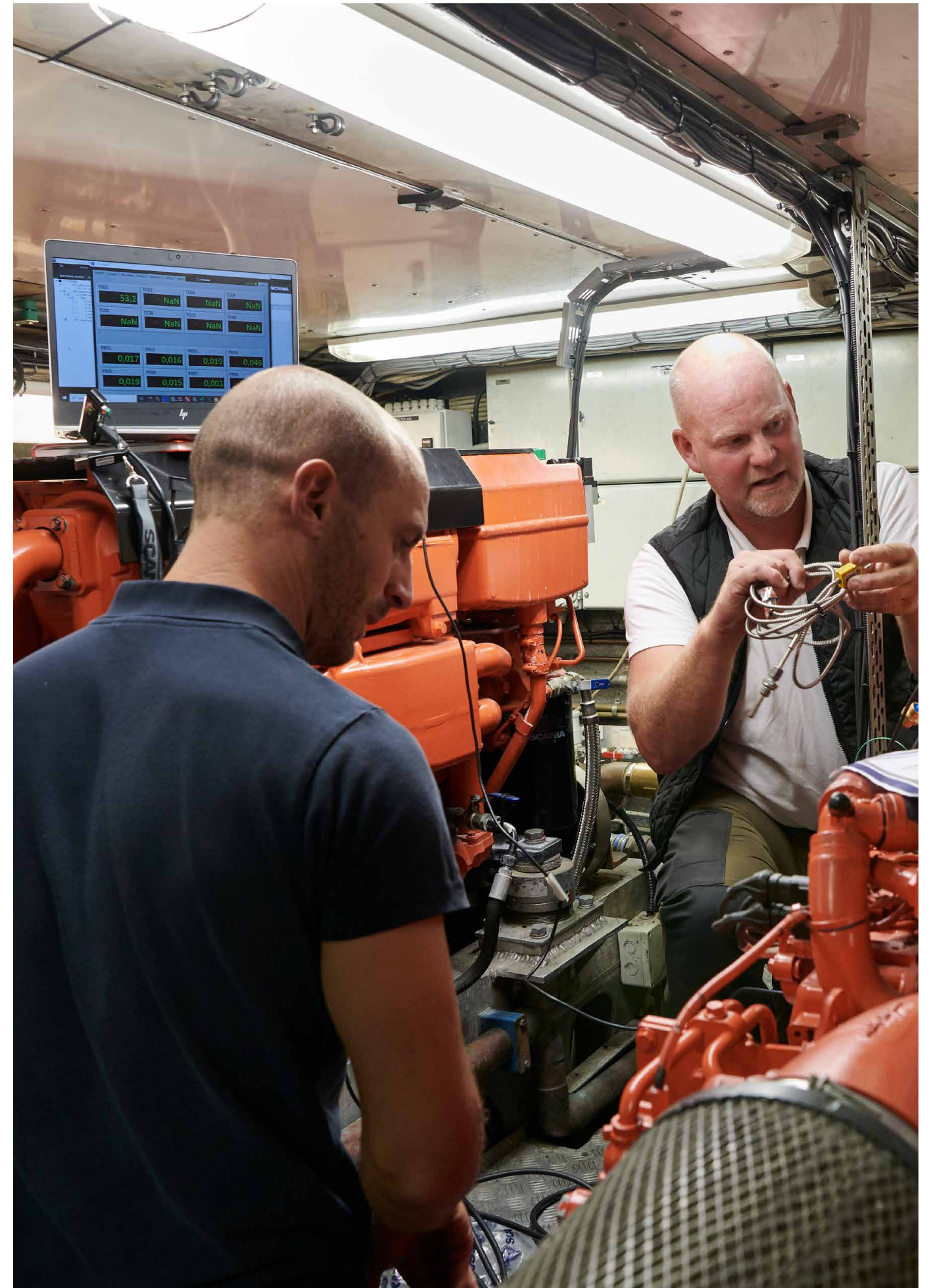
With Power Optimisation by Scania, the system and the power it provides is fully adapted and suited for its specific purpose – with major positive implications and wide benefits to the operation. Scania power systems are designed with an even balance between a number of

factors. This provides a profile that is optimised for the specific purpose, but can manage all usage scenarios in a good way.

Adapting its characteristics through Power Optimisation takes performance to an entirely new level. Our expert adjustment of the calibration also considers adapting interfaces and adjacent components. The result is a completely altered power system that is perfectly suited to the particular vehicle and its operation.

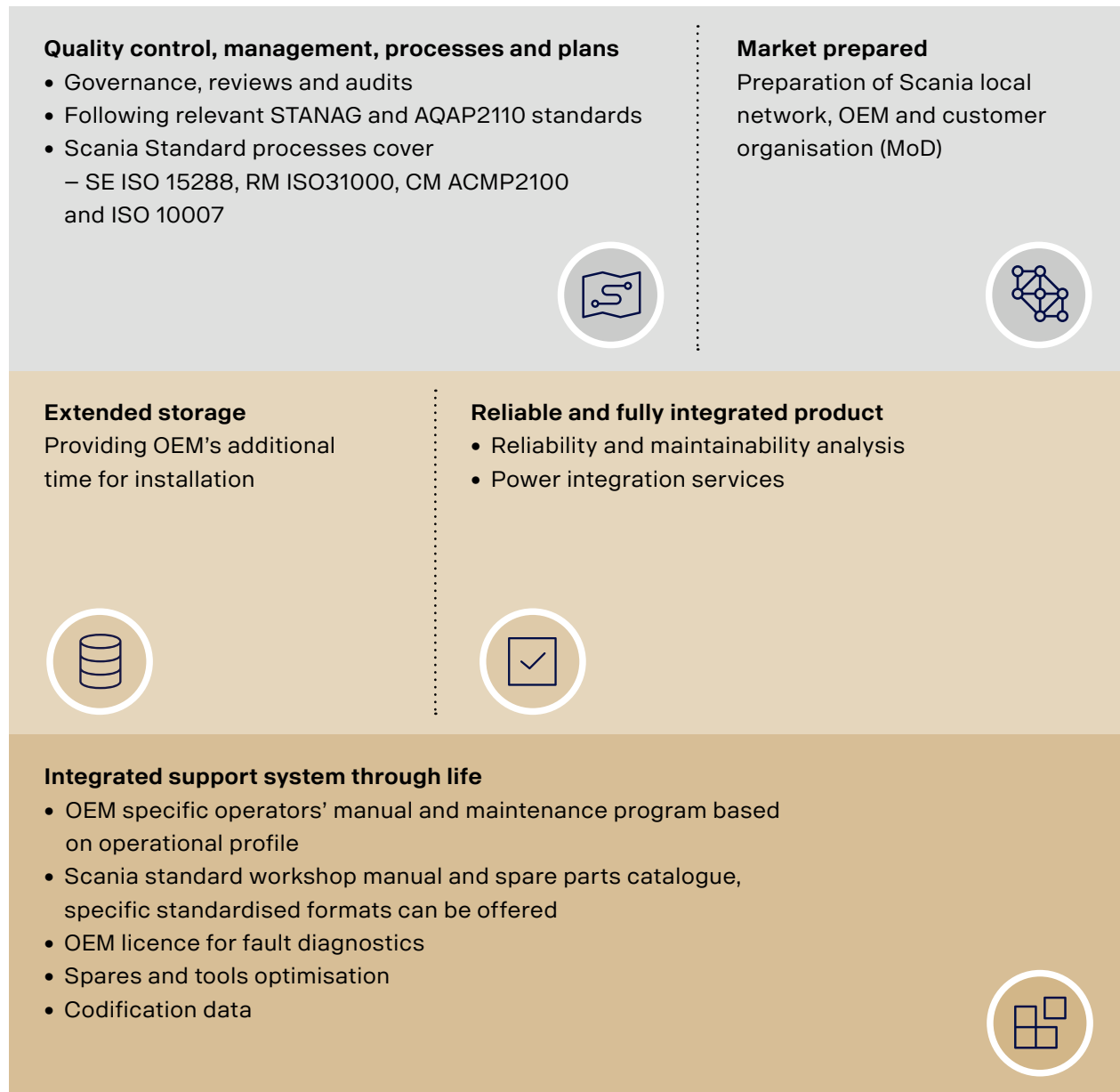
## Torsional vibration calculations

A professionally performed and approved TVC is a vital analysis of the torsional system. By ensuring that torsional vibrational levels stay within permissible limits, the crankshaft and vibration damper can be protected from damage. This in turn safeguards product reliability, uptime, and productivity.



# SCANIA SERVICES FOR DEFENCE OEM'S

## Design, development, production and verification phase



## Sustainment and disposal phase

