



CASTROL OPTIGEAR
SYNTHETIC X 320 HAS GOT
WHAT IT TAKES TO BEAT **THE**
GLOBAL MARKET LEADER*
THAT'S THE POWER OF...

**THE TECHNOLOGY
INSIDE**

Castrol India Ltd
Rayala Towers, 5th Floor
781-785 Anna Salai
Chennai 600 002
Tamil Nadu
India
Tel +91 44 4219 8899
Fax +91 44 2841 6305
Email: CustomerService.India@Castrol.com

Castrol UK Ltd
Technology Centre
Pangbourne
Whitchurch Hill
Reading RG8 7QR
UK
Tel +44 (0)8459 645 111
Email industrialcustomerservice@castrol.com

BP Europe SE
Erkelenzer Straße 20
41179 Moenchengladbach
Germany
Tel +49 (0)2161 909-30
Fax +49 (0)2161 909-400
Email bp-industrie@de.bp.com

BP Oil España, S.A.U
Avda. Bruselas, 36
28108 Alcobendas – Madrid
España
Tel +35 1919643474
Email Pedro.Amado@bp.com

Castrol Industrial North America Inc
150 West Warrenville Road, 605-3W
Naperville, IL 60563
USA
Tel +1 877 641 1600
Fax +1 877 648 9801
Email techhelp@castrol.com

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*Market leader based on global market share of product

IT'S MORE THAN JUST OIL. IT'S LIQUID ENGINEERING.



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THE UNIQUE TECHNOLOGY INSIDE CASTROL OPTIGEAR SYNTHETIC X 320

- **PURPOSE-ENGINEERED.** Pioneering technology developed to exceed OEM standards specifically to protect and maximise the performance of next generation wind turbine gearboxes.

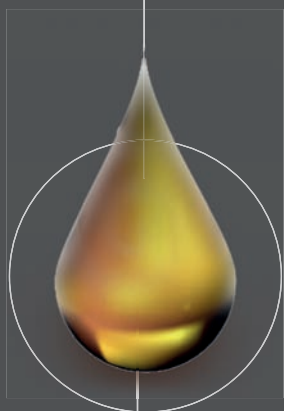
1. HIGHER RESISTANCE TO MICROPITTING*. Significantly greater gearbox protection under high loads, preserving turbine components longer. SEE LAB TRIAL A

2. LONGER GEARBOX LIFE*. Castrol Optigear Synthetic X 320 creates a 5-10% thicker oil film to improve gearbox protection and cut wear. SEE LAB TRIAL B

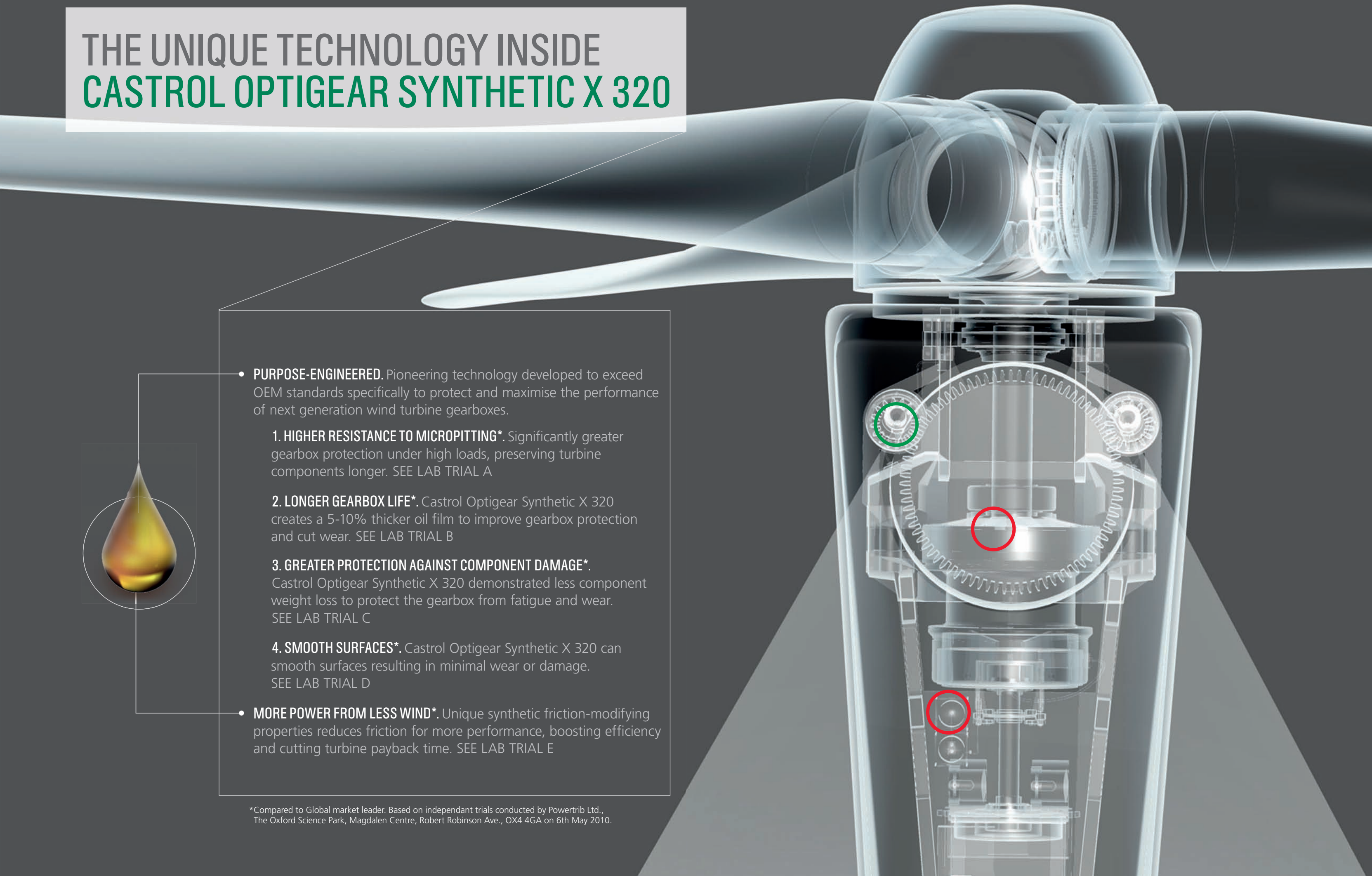
3. GREATER PROTECTION AGAINST COMPONENT DAMAGE*. Castrol Optigear Synthetic X 320 demonstrated less component weight loss to protect the gearbox from fatigue and wear. SEE LAB TRIAL C

4. SMOOTH SURFACES*. Castrol Optigear Synthetic X 320 can smooth surfaces resulting in minimal wear or damage. SEE LAB TRIAL D

- **MORE POWER FROM LESS WIND*.** Unique synthetic friction-modifying properties reduces friction for more performance, boosting efficiency and cutting turbine payback time. SEE LAB TRIAL E



*Compared to Global market leader. Based on independent trials conducted by Powertrib Ltd., The Oxford Science Park, Magdalen Centre, Robert Robinson Ave., OX4 4GA on 6th May 2010.



SAVINGS CALCULATOR

EXAMPLES BASED ON 50 WIND TURBINE GENERATOR FARM

OIL CHANGE COST SAVINGS

Example over seven years based on \$5,000 per turbine oil change cost (filters, labour, loss of production).

EXTEND SERVICE INTERVALS

Castrol Optigear Synthetic X 320 can last up to 7 years before an oil change, a typical competitor could need an oil change in this time. This is a potential saving of one oil change on each turbine.

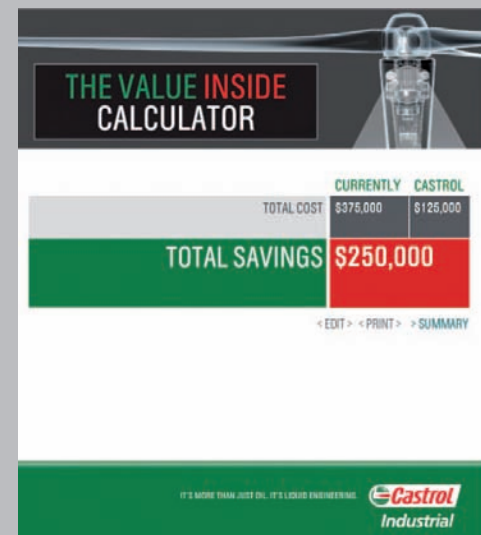
\$5,000 x 50 = \$250,000

CASTROL SAVING = \$250,000

GEARBOX COST SAVING

Tests have proven that Castrol Optigear Synthetic X 320 has a high resistance to micropitting. This means that gearboxes are likely to last longer. This will save on:

- PARTS
- LABOUR
- LOSS OF PRODUCTIVITY



Please speak to your local Castrol Representative for further information on the value of the [Technology Inside](#), and ask for a demonstration of the Value Calculator shown above. See what savings can be made today.

TO PROTECT YOUR **WIND TURBINE** INVESTMENT, ESPECIALLY WHEN **OUT-OF-WARRANTY**, YOU NEED ONE OF THE WORLD'S MOST ADVANCED LUBRICANTS. **CASTROL OPTIGEAR SYNTHETIC X 320**, IS DESIGNED TO DELIVER MORE SUSTAINED PROTECTION. **HERE IS THE EVIDENCE TO PROVE IT.**

Note: Calculations based in US Dollars.

*Based on best case scenarios regarding extending service intervals as described in detail in the example on the left hand side (extend service intervals).

TECHNOLOGY WITH ALL THE ANSWERS

1. MAIN BEARING

Castrol Spheerol LC 2
Castrol Optigear Synthetic X 320
Castrol Optitemp SW

2. PITCH ADJUSTMENT

Castrol Optitemp SW
Castrol Spheerol LC 2

3. YAW BEARING

Castrol Optipit
Castrol Optitemp SW

4. HYDRAULIC SYSTEMS

Castrol Hyspin AWH-M
Castrol Hyspin AWV 32
Castrol Hyspin HVI
Castrol Carelube HES

5. MAIN GEAR & AUXILIARY GEAR DRIVES

Castrol Optigear Synthetic X 320
Castrol Optigear Synthetic A
Castrol Tribol BioTop 1418
Castrol Optigear MX

6. GENERATOR BEARING

Castrol Longtime PD 2

7. YAW OPEN GEAR

Castrol Optipit
Castrol Molub-Alloy 936 SF

CASTROL HAS THE TECHNOLOGY INSIDE

Inside the advanced machinery on which industries depend is a hidden technology. The microscopic films of oil protect vital components, often under vast stresses and in extreme conditions.

At Castrol Industrial, we know that the performance of your business depends on the performance of our lubricants. We believe you cannot compromise on oils and lubricants – which is why you should demand **CASTROL TECHNOLOGY INSIDE.**

THE TECHNOLOGY
INSIDE