

OpendTect COMMERCIAL LICENSE AGREEMENT VERSION 1.6

--- Covers License, Update, Maintenance & Support ---

This Agreement between _____
whose Registered Office is situated at _____
_____ (hereinafter called "Customer") and **dGB Earth Sciences BV**, whose
Registered Office is situated at Nijverheidstraat 11-2, 7511 JM Enschede, The Netherlands and/or **de
Groot-Bril Earth Sciences USA LLC**, a company incorporated under the laws of Texas, whose
Registered Office is situated at 1 Sugar Creek Center Blvd. Suite 935, Sugar Land TX 77478, USA, as
the case may be (hereinafter individually and jointly called "dGB");

Whereas

Customer wishes to use OpendTect, an open source computer Software that is released under a triple
licensing policy: under the GNU General Public License version 3 or higher as published by the Free
Software Foundation (<http://www.gnu.org/copyleft/gpl.html>), under this commercial license, or under
an academic license;

And whereas

Customer chooses to run the Software under this commercial license because:

1. Customer may have purchased, or may at some time in future wish to purchase or lease, one or
more closed source commercial extensions to the Software (hereinafter "Plugins");
2. Customer may wish to develop proprietary software in the OpendTect environment and
Customer does not wish to be bound by the restrictions of the GPL license which requires
derived software products to be published under the same GPL terms and conditions;
3. Customer wishes to obtain from dGB priority support services in respect of the Software and
dGB agrees to provide such services on the terms and conditions set out in this Agreement.

It is hereby agreed as follows:

1. DEFINITIONS

In this Agreement the following expressions shall have the following meanings:

- A. "Software" shall mean associated operational and application computer programs in object and
source code form released under the name OpendTect, OpendTect Pro and optionally extended
with one or more closed source Plugins, set out in the Schedule hereto.
- B. "Documentation" shall mean any written or printed technical material provided by dGB with
the software to explain its operation or its use.
- C. "Support" shall mean the support service provided by dGB to Customer under this Agreement.

2. TERM

This Agreement shall commence on *(date)* _____ and shall, subject to the provisions for earlier termination set out below, last for an initial period of one year and shall continue thereafter unless and until 90 days' notice of termination in writing is given by either party to the other expiring on or at any time after the said initial period has elapsed.

3. LICENSE

- A. dGB hereby grants to Customer a nonexclusive, perpetual, irrevocable, floating licence to use the Software and the Documentation within *(country)* _____ (hereinafter "Territory") in accordance with the rights and permissions stated herein, including the Schedule attached hereto (hereinafter "License").
- B. dGB represents and warrants that it has all the rights, title, interest, power, and authority to grant the License and all other rights extended, including all rights in any third party software or Plugins provided by dGB, and that the same are governed by the terms and conditions of this Agreement.
- C. Customer shall have the right to give its personnel and contractors access to the Software and Documentation covered by License in order to allow them to use such Software and Documentation and to make copies of the Software in machine-readable form for emergency back up, fallback and archiving. Customer shall have the right to make a reasonable number of copies of the Documentation.
- D. The License entitles Customer to download the Software from the Internet and to receive from dGB a perpetual license key to run Plugins that are purchased and to receive from dGB temporary license keys to run Plugins that are leased for the duration of the requested lease period.
- E. Customer shall be entitled during the term of the License to use the Software without disturbance, subject only to the fulfilment of its obligations under this Agreement. dGB represents that the Software for which Customer takes out a licence is not subject or subordinate to any rights of dGB's creditors, or if such subordination exists, that the agreement or instrument creating the same provides for non-disturbance of Customer so long as Customer shall not be in default hereunder.
- F. The License entitles Customer to run any version of the Software that was released by dGB during the time for which Maintenance Fees have been paid, and to receive from dGB new license keys as and when needed. Updates will be subjected to Customer's standard acceptance tests. If, in the reasonable opinion of Customer, the update does not satisfactorily pass these standard acceptance tests, Customer may continue to use the prior version of the Software.
- G. Customer shall be entitled to use the Software ordered pursuant to this Agreement on any hardware configuration, irrespective of whether or not it owns or maintains such hardware configuration or installs or maintains the Software on such hardware configuration. In the event the hardware configuration is wholly or partly temporarily or permanently inoperable or has been replaced by a new system in the course of modernisation or has been moved to another location within the Territory Customer shall be entitled to use the Software on the alternative

or new system and/or at such different location(s), as the case may be, provided it has given dGB prior written notice thereof. For the purpose of this Agreement that alternative or new system will temporarily or permanently, as the case may be, replace the hardware configuration on which the Software was originally intended to be installed. dGB does only warrant that the Software works on a limited number of computer environments, as described in the Schedule hereof.

- H. At the Customer's request, dGB shall use its best endeavours to train or arrange for the training of Customer's personnel in the installation and use of Software for which Customer has obtained a licence. Such training will be provided as soon as reasonably possible and the cost of such training shall be agreed separately.
- I. Customer is free to connect the hardware configuration with other computer systems of Customer. Customer is free to use the Software for which it has obtained a licence in conjunction with its own and third party Software products resident in the hardware configuration or connected computer systems.
- J. Customer is free to develop code using the Software and to keep such code proprietary, or to release it, either as closed source Plugins, or as open source Plugins. Open source Plugins developed by Customer must be released under the GPL license version 3 or higher. Closed source Plugins can be released either under Customer's own terms and conditions but only to users that run OpendTect Pro under a commercial Agreement with dGB (or an affiliate), or under dGB's academic agreement. Customer is requested to contact dGB in case of doubt about commercialization issues.

4. INVOICES, PAYMENTS AND FEES

- A. Maintenance Fees shall be invoked every 12 months in respect of the following 12-month period. Maintenance Fees for part of a 12-month period shall be reduced pro rata. Invoices for License Fees and Maintenance Fees shall be due and payable 30 days after receipt of the invoice. Failure to meet payment dates will result in support coverage being suspended until such time as all monies are paid.
- B. The Maintenance Fees are set out in the Schedule hereto. All costs including but not limited to labour for the Software which are incurred by dGB shall be included in the Maintenance Fees. All costs related to travel and accommodation expenses, which are incurred by dGB for the execution of this agreement, will be charged at cost to Customer.
- C. Once per year, in the month of January, upon 30 days written notice to Customer, dGB may increase the Maintenance Fees provided always that any such increase shall be no greater than 10%.
- D. Customer may request to be invoiced by the US Dollar amount that is equivalent to the price in Euro on the day of invoicing. The exchange rate will be taken from European Central Bank's "Euro foreign exchange reference rate" from the European Central Bank's website (<http://www.ecb.int/stats/exchange/eurofxref/html/index.en.html>) on the day of invoicing.

5. CUSTOMER RESPONSIBILITIES

- A. Customer shall designate an employee or employees who shall be responsible for the Software and knowledgeable in the operation of the Software.
- B. Customer shall promptly notify dGB per email to the email address given in Clause 7B hereof, of any failure or malfunction of the Software and Customer shall thereafter allow dGB or its duly authorised agents or sub-contractors such access to the Software as may be necessary for dGB's performance of Support subject to Customer's reasonable security rules.

6. SUPPORT

- A. dGB shall provide Support for the Software and Documentation at any time that Customer has paid Maintenance Fees for, as follows:
 - (i) Upgrades and enhancements to the Software as and when developed by dGB.
 - (ii) dGB shall use its reasonable endeavours to correct within a reasonable time errors and defects in the Software in order to ensure that the Software operates in accordance with the specifications set out in the operating manual.
 - (iii) Corresponding updates to Documentation.

7. HOURS FOR SUPPORT AND RESPONSE TIMES

- A. Support will be provided by the respective offices of dGB in Enschede, Houston and Mumbai from 9.00 a.m. to 5.00 p.m. local time on every working day which shall exclude Saturdays, Sundays and local national Holidays. Overtime Support will be provided only on Customer's express request and will be charged at current rates.
- B. dGB endeavours to provide support within 8 working hours of receipt of a request from Customer for Support. All such requests must be made via the Support Desk line, preferably via email to support@dgbes.com.

8. LIMITATIONS

- A. dGB's obligation to provide Support is subject to performance by Customer of its obligations under Clause 5 above. Furthermore:
 - (i) dGB does not warrant and is not obliged to provide Support for the Software for operation with any other equipment or software and assumes no responsibility for updating the Software to operate with any other equipment or software.
 - (ii) Any delay by Customer in performing its obligations under clause 5 shall extend all related dGB obligations for a similar period.
 - (iii) Any costs incurred by dGB as a result of Customer's failure to meet its obligations under clause 5 shall be reimbursed to dGB by Customer.

- B. dGB shall not be liable for any loss or damage to Customer caused by the delay of dGB in providing Support due to reasons beyond its control.
- C. The Customer and dGB shall in no event be liable one to the other for loss of revenue profit or anticipated profit.

9. TAXES

All sums due under this Agreement are exclusive of applicable taxes, which shall be added at the rate applicable at the appropriate tax point.

10. ASSIGNMENT, SUBCONTRACT

- A. Except as provided below, neither party may assign, or otherwise transfer any or all of its rights and obligations under this Agreement without the prior written consent of the other which consent shall not be unreasonably withheld.
- B. dGB retains the right to subcontract its Support obligations hereunder provided that dGB shall exercise all due care in selecting reasonably competent subcontractor(s) possessing skills equivalent to those of dGB's Support personnel. dGB shall notify the customer in advance of any use of subcontractors and shall remain ultimately responsible for its duties towards the Customer under this Agreement.
- C. Any assignment or transfer by either party to a successor in interest to all or substantially all of that party's business by sale, merger or reorganisation shall be permitted provided that such successor in interest is expressly bound by the terms of the assignment or transfer to perform all of that party's obligations under this Agreement.

11. NOTICE

All notices hereunder shall be in writing and may be sent by recorded delivery first-class post addressed to the other party at the address set out above. A notice shall be deemed to have been served 7 days after posting. Either party upon written notice to the other may change any name or address to which future notices shall be sent.

12. TERMINATION

- A. Following the initial term of this Agreement either party may terminate the Agreement by giving 90 days written notice to the other except as detailed in clause 12D. Upon any such termination any amounts up to the date of termination in accordance with the Schedule shall become due, but there shall be no other liability on either party resulting from such termination.

- B. Customer can discontinue or decrease the number of users for a Plugin with 90 days' written notice. Customer can reinstate a Plugin that has previously been discontinued by paying the full Licence Fees for that Plugin.
- C. Should Customer decrease the number of users for a Plugin or the Software (including decreasing it to zero), no Maintenance Fees, License Fees or leases will be refunded to Customer.
- D. Either party may terminate the Agreement forthwith by written notice to either party if:
 - (i) The other party unlawfully repudiates the Agreement; or
 - (ii) The other party shall commit a substantial breach of any of its obligations under the Agreement not amounting to such a repudiation and shall not have remedied such breach within four (4) weeks of receiving written notice of the breach from the first party of the breach, or commits a repetition of such breach; or
 - (iii) The other party shall become bankrupt or enter into liquidation (provisional or otherwise) except for purpose of amalgamation or reconstruction or a receiver and / or manager or administrator appointed in respect of its assets or any part thereof or it enters into any composition or arrangement with creditors generally.

13. GENERAL PROVISIONS

- A. This Agreement shall be construed so far as possible to give validity to all its provisions. Any provision found to be void or unenforceable shall be deemed to be omitted herefrom and the remaining provisions shall continue in full force and effect.
- B. This Agreement shall be governed by Netherlands law and the parties irrevocably submit to the exclusive jurisdiction of the Dutch Courts.
- C. This Agreement sets out the entire understanding of the parties and supersedes all proposals oral or written and all other prior promises representations understandings implications or negotiations between the parties. No modification of any of the provisions hereof or any future representation promise or condition in connection with the subject matter hereof shall be binding on either party unless made in writing and signed by both parties.
- D. The headings are included for reference purposes only and shall not affect the meaning or interpretation of this Agreement.
- E. The waiver by either party of any breach of any provision of this Agreement shall not prevent the subsequent enforcement of that provision and shall not be deemed to be a waiver of any subsequent breach of that or any other provision.

Signed on behalf of
(Customer)

Signed on behalf of
dGB

BY: _____

BY: _____

NAME: _____

NAME: _____

TITLE: _____

TITLE: _____

Licensing Policy

OpendTect is an open source seismic interpretation system and R&D environment. It supports all functionality needed for standard seismic interpretation work. OpendTect is released under a triple licensing scheme:

- 1- OpendTect under GNU GPLv3 or higher,
- 2- OpendTect Pro under a Commercial License Agreement,
- 3- OpendTect Pro under an Academic License Agreement.

Under the commercial (and Academic) License Agreement(s) OpendTect Pro can be extended with closed source plugins for added functionality. OpendTect itself runs without license managing software but OpendTect Pro and all commercial plugins are protected by FlexNet license managing software. The usage fee for a commercial license of OpendTect Pro is € **1.600,00** per user per annum. Plugin licenses are available as:

- 1- **Perpetual license:** subject to a license fee and annual maintenance, update & support fees.
- 2- **Temporary license:** subject to a monthly or annual rental fee.

OpendTect is currently supported on Linux (64-bit), Mac OS/X and Windows (7, 8 and 10; 32 and 64 bits). Not all plugins are supported on all platforms and supported platforms for OpendTect and plugins may change as the market evolves. For an up-to-date overview of supported platforms for each plugin, see <http://www.dgbes.com/index.php/platforms.html> .

OpendTect and its plugins support multi-platform distributed computing platforms and it is allowed to run the software on different platforms and on different sites within the same territory from a central license server.

Schedule

The Software refers to OpendTect Pro, a seismic interpretation software system and to commercial Plugins, all of which are released via the Internet (www.opendtect.org).

OpendTect is not protected by license managing software. OpendTect Pro is a commercial layer on top of OpendTect with additional functionality.

The SSIS plugin is an add-on to the HorizonCube, which itself is an add-on to the Dip-Steering plugin. Workstation Access, SCI, SSB, SFE, SNP, SB and Spotlight are plugins by ARK CLS that are marketed by dGB.

Deterministic Inversion and Stochastic Inversion are plugins by Earthworks / ARK CLS that are marketed by dGB. The Stochastic Inversion plugin is an add-on to the Deterministic Inversion plugin.

CLAS Lite is a plugin by Sitfal, that is marketed by dGB

Technical Specifications of OpendTect and its Plugins (Extension Modules)

- **OpendTect** is the open source part of the system. It is a seismic interpretation system and R&D environment that supports a/o data IO, visualization, interactive attribute analysis, spectral decomposition, horizon tracking, fault interpretation and multi-platform distributed computing.
- **OpendTect Pro** is a commercial layer on top of OpendTect with PetrelDirect link to Petrel®, basemap + mapping, PDF-3D for sharing 3D images, Thalweg tracker for seismic facies tracking and Ray-tracer for AVA Attributes and Angle Stacks.
- **Dip Steering** calculates steering cubes (i.e. volumes with local dip and azimuth information) for advanced attributes, filters, chrono-stratigraphic horizon tracking (HorizonCube) and gridding.
- **HorizonCube** maps a dense set of correlated stratigraphic surfaces which can be used for high resolution low-frequency models, sequence stratigraphy, etc.
- **SSIS** is a Sequence Stratigraphic Interpretation System supporting a/o 3D Wheeler transformation of seismic data and (meta)attributes, to perform system tracts interpretations.
- **Neural Networks** supports supervised and unsupervised neural networks for object detection (*TheChimneyCube*, *TheFaultCube*), seismic facies analysis and inversion to rock properties.
- **Well Correlation Panel** is for the correlation of wells and seismic horizons that can be integrated with a stratigraphic column.
- **Faults & Fractures** supports special attributes, filters and tools for analyzing faults and fractures. Included are among others: Thinned Fault Likelihood, Smoothed Seismic, Un-faulting, automatic fault-plane extraction, fracture density and fracture proximity. In combination with dip-steering also: dip-steered attributes and filters (SOF), and curvature attributes.
- **Fluid Contact Finder** is used to detect subtle hydrocarbon-related seismic anomalies and to pinpoint Gas-Water, Gas-Oil and Oil-Water contacts.
- **Velocity Model Building** supports picking of residual move-outs on pre-stack gathers and semblance gathers, picking of pre-stack events for tomographic inversion and building / updating of 3D velocity models. Two modules are supported: vertical update and horizon-consistent update.
- **SynthRock** is a forward pseudo-well modeling and probabilistic inversion package supporting wedge models, stochastic models, pre- and post-stack synthetic seismograms and cross-matching (HIT cube) inversion.
- **Workstation Access** is to exchange data with SeisWorks/OpenWorks® or GeoFrame/ IESX®.
- **GeoDataSync – Accelerate** is a plug-in for Petrel® seismic to simulation software. It provides users with easy access to 3D seismic data volumes stored in an OpendTect survey without copying. This can be for viewing and using within a Petrel® workflow. It also provides a facility for importing, and exporting of various data objects between OpendTect and Petrel®.
- **Seismic Coloured Inversion** is an easy method to create band-limited acoustic impedance.
- **Seismic Spectral Blueing** is a method for shaping the seismic spectrum to resemble the spectrum of measured well logs. SSB increases the vertical resolution without boosting noise.
- **Seismic Broadband** is an innovative technique that integrates well data into your seismic analysis. By using acoustic impedance logs and reflectivity two operators are simultaneously derived, once applied, they effectively broaden the amplitude spectrum of the seismic data at both ends, low and high.
- **Seismic Net Pay** is an improved method to estimate net pay from seismic colour inverted attributes.
- **Spotlight** can rapidly combine up to four different coloured seismic datasets into a single cube that resembles the behaviour of a given elastic attribute. The relationship between the input data and the desired output is established from prior well log analysis.
- **Seismic Feature Enhancement** is a flat-spot utility that enhances the signal of consistent flat events and reduces the "noise" of the channel reflections.
- **Deterministic Inversion** includes a 3D model builder for constructing a priori impedance models using well log and seismic horizon data; a 2D error grid generation module for providing spatial inversion constraints and a model-based deterministic inversion module.
- **Stochastic Inversion** includes the MPSI ultraFast stochastic inversion module for generating multiple geostatistical realizations and the utilities for processing the multiple realizations to represent the inversion uncertainty for lithology, porosity, saturation or other attributes as probability cubes. This plug-in also requires the purchase of the deterministic inversion plug-in.
- **CLAS Lite** is a petro-physics package that supports log editing and calculation of derived logs such as porosity, saturation, volume of clay and temperature.

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