SCHJØDT

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CONFIDENTIAL



Oslo, 1 August 2022 Attorney in charge: Olav Kolstad

THE NORWEGIAN COMPETITION ACT § 18

SIMPLIFIED NOTIFICATION (FORENKLET MELDING)

TGS ASA

AQUISITION OF SOLE CONTROL OVER

MAGSEIS FAIRFIELD ASA

1. CONTACT DETAILS

1.1 Notifying party

Name:	TGS ASA
Address:	Askekroken 11, NO-0277 Oslo
CN. Norway:	976 695 372

1.1.1 Representative

Name:	Advokatfirmaet Schjødt AS
Attn.:	Olav Kolstad/Mats Johnsson
Address:	Postboks 2020, 5817 Bergen
E-mail:	olav.kolstad@schjodt.com / mats.johnsson@schjodt.com
Phone:	22 01 88 00

1.2 Target

Name:	Magseis Fairfield ASA
Address:	Strandveien 50, NO-1366 Lysaker
Cn. Norway:	994 547 852

1.2.1 Representative

Name:	Advokatfirmaet Thommessen
Attn.:	Siri Teigum/Liv Sofie Utvær
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2. DESCRIPTION OF THE TRANSACTION

2.1 Introduction

- (1) The concentration which forms the subject matter of the present notification (the Concentration) consists in a voluntary public offer (the Offer) issued by TGS ASA (TGS¹) for all the shares in Magseis Fairfield ASA (Magseis; TGS and Magseis are jointly referred to as the Parties). The terms of the Offer have been agreed upon among TGS and Magseis in a Transaction Agreement entered into on 29 June 2022 (the Agreement) and the Offer has been announced in a press release of the same date.²
- (2) Under the terms of the Agreement, TGS will within certain deadlines launch the Offer pursuant to the Norwegian and Oslo Børs rules for such offers. Existing shareholders in Magseis will be invited to exchange their shares in Magseis for consideration in cash and TGS shares. The Offer is conditioned upon *inter alia* acceptance of the Offer by shareholders holding more than 90% of Magseis shares, and approval of the transaction by regulatory authorities.
- (3) Should the Offer be successful TGS will acquire in excess of 90% of the shares and votes in Magseis, and thereby acquire sole control over Magseis.

2.2 The rationale for the transaction

(4) TGS considers that the seismic industry is undergoing a significant transformation brought about by fundamental structural challenges and that consolidation therefore would be beneficial.



(5) The combined company will also

3. JURISDICTION

(6) The Concentration reaches the thresholds for mandatory notification pursuant to Konkurranseloven § 18(2). The Parties' turnover is as follows:

Million NOK ³ 2021	Worldwide	Norway
TGS	4 460	
Magseis	2 219	

(7) Further, the requirements for a simplified notification are met since, first, the Parties are not active on the same product and geographic market (no horizontal overlaps) and, second,

¹ Konkurransetilsynet is familiar with TGS' activities from the 2019 notification of its acquisition of Spectrum.

 $^{^{2}} https://www.tgs.com/press-releases/tgs-asa-and-magseis-fairfield-asa-announce-a-recommended-voluntary-exchange-offer-by-tgs-to-acquire-all-shares-of-magseis$

³ Converted from USD at the Norges Riksbank 2021 average annual USD/NOK exchange rate.

whilst the Parties are active on vertically connected markets their respective share of such markets is below 30%, cf. *Retningslinjer for forenklet melding av foretakssammenslutning* § 3(1) no.3 a). This is further elaborated upon under Part 5 below.

4. **DESCRIPTION OF THE PARTIES**

4.1 TGS

- (8) TGS is an energy data and intelligence company. TGS offers extensive global data libraries that include seismic data, magnetic and gravity data, multi-beam and coring data, digital well logs and production data, and new energy solutions data (inc. wind, solar, geothermal). TGS also offers specialized services such as advanced processing and analytics and cloud-based data applications and solutions. TGS' customers are for the most part oil and gas companies who wish to use seismic data in order to examine certain geographic areas for oil or gas exploration. TGS licenses its data to these customers on a non-exclusive basis.
- (9) TGS is active in the multiclient sector of the seismic industry and does not provide seismic acquisition services. Proprietary, or contract, acquisition services means the acquisition of seismic data carried out by a service company for a specific customer or group of affiliated customers, mostly oil and gas companies. The customer pays for the acquisition of the data and takes ownership of the resulting data. Multiclient acquisition, on the other hand, refers to data acquisition carried out by a service company on behalf of a multiclient data company such as TGS, with a view to creating a library of data in respect of the area surveyed. The multiclient data company has ownership of the data and licenses access to it to its customers, such as oil and gas companies, on a non-exclusive basis. The cost of the multiclient surveys may be underwritten (pre-financed) by the customers, meaning that customers pay the multiclient data company part of the price in advance to fund the acquisition of the data.
- After data is acquired, it is processed (through application of algorithms and software workflows) into an image of the subsurface. Processing can be done on both a proprietary or multiclient basis and is low cost compared to acquisition (processing is typically of total project cost). Unlike acquisition, TGS provides data processing services and is active in both multiclient and proprietary processing.
- (11) For customers, acquiring data through a proprietary survey or licensing data out of a library on a multiclient basis is largely interchangeable and depends on the specific circumstances, what data is available for the relevant geography etc. For an example in Norway,
- (12) Prior to the Concentration TGS holds no own resources for acquisition, hence needs to engage a provider of acquisition services such as Magseis to acquire new data.
- (13) TGS' group consists of the subsidiaries found at Annex 1 hereto.
- (14) TGS is listed on the Oslo Stock Exchange.

4.2 MAGSEIS

(15) Magseis is also active in the field of seismic data services. However, Magseis' activity differs from that of TGS in that Magseis offers acquisition services, but is not active in the

processing and licensing of data. Moreover, Magseis is not active in the multiclient field, but will carry out service contracts on a proprietary basis for customers that include oil and gas companies, but also multiclient companies such as TGS. Magseis owns part of the assets necessary for providing its services, in particular nodes, but needs to lease assets such as vessels from third parties.

- (16) Magseis' group consists of the subsidiaries listed at page 58 of its 2021 Annual Report.
- (17) Magseis is listed on the Oslo Stock Exchange.

5. THE CRITERIA FOR SUBMITTING A SIMPLIFIED NOTIFICATION ARE MET

5.1 Introduction

- (18) As will be shown below, on properly defined relevant markets the Parties (i) are not active in the same product and geographic market, i.e. there is no horizontal overlap, and (ii) whilst the Parties are active in vertically related markets their respective share of such markets is below 30%, cf. *Retningslinjer for forenklet melding av foretakssammenslutning* § 3(1) no.3 a).
- (19) Below TGS will be guided by the market definitions set out in the OFT's decisions in CGG/Veritas⁴ and CGG Veritas/Fugro,⁵ and relied upon in TGS' previous notification in TGS/Spectrum ASA. For the purposes of this transaction the narrowest reasonable markets will thus be:
 - acquisition of seismic data;
 - processing of seismic data; and
 - licensing of seismic data.
- (20) In its decisions the OFT also defined a market for ancillary services, which is not relevant for this transaction (although it will be briefly discussed below).
- (21) The above markets are global in scope, but for Konkurransetilsynet's information TGS will also discuss them in a Norwegian context.

5.2 The market for the acquisition of seismic data

- (22) Seismic data is used by oil and gas companies to analyze the subsurface characteristics of a geographic area for the potential of oil or gas exploration in existing fields or outside of existing production (frontier).
- (23) The customer may obtain seismic data either by the proprietary or contract route, whereby it contracts with a party, such as Magseis, which has the capacity in terms of vessels, equipment etc. to acquire the data by on site survey. The acquired data becomes the exclusive property of the customer. Acquisition may be carried out by different methods depending on conditions, customer requirements and purpose of the acquisition etc. The customer choice will be determined principally by the geophysical and geological objectives required and preferences in terms of the price, quality and timing for the individual project.

⁴ Office of Fair Trading, ME/2745/06, decision dated 6 February 2007.

⁵ Office of Fair Trading, ME/5780/12, decision dated 10 January 2013.

- (24) The customer may also obtain pre-existing data from "multiclient" libraries held by data companies such as TGS, which have contracted for the acquisition of data in a certain geography, processed it and sorted it in a library, access to which is then licensed to customers. The building of such libraries can be "pre-funded" by customers paying the data supplier in advance part of the cost of producing the database. Customers who are looking to obtain library data can search for available data in the geographic areas in which they are interested by either contacting individual data holders or through online resources such as data company websites or Versal; the latter is a unified seismic data ecosystem providing information on data held and available for licensing by multiple data suppliers in various geographical areas.
- (25) Of the Parties, only Magseis is active in acquisition. TGS has no resources and no activity in the acquisition of data, but obtains its data contracting with companies like Magseis.
- (26) The Parties considers acquisition to form one single relevant market.⁶
- (27) From the demand side, customers choose from a toolbox of options to suit their objectives in terms of price, quality and timing.
- (28) In terms of quality, data may be collected as 2D, 3D (three dimensional) or 4D (3D with a time component) data. The customer chooses an appropriate quality (e.g. density of the measurements) which corresponds to the intended use of the data and the data characteristics that it needs. All acquisition technologies in use today can produce these forms of data.
- (29) Technically, offshore data⁷ is acquired using primarily two techniques. First, "streamers" are very long (several kilometers) cables with sensitive sensor equipment (hydrophones) which are towed behind a dedicated vessel and record seismic data from this position as a result of a sound generated by a source (such as an airgun). Second, "nodes" (Ocean Bottom Nodes, OBN) are devices with sensitive sensor equipment (hydrophones and geophones) which are placed on the sea floor using rope, cables or remotely operated submarine vehicles. These nodes sit on the bottom, in direct contract with the sea floor and register seismic data when a sound is generated by a source.
- (30) Streamer and node technology is largely viewed as substitutable by customers. TGS is not aware of any particular application for which it is not technically possible to use either of streamers and nodes, and whilst their technical characteristics differ in some respects, TGS believes that there is not one method which is clearly superior. Moreover, differences in how the technology is employed – such as multiplying the azimuth of streamer collection – can produce different results.
- (31) When customers are at an early stage of planning a seismic survey, they will typically not restrict themselves to considering only one particular acquisition technology. Indeed, modelling work and market research (Requests for Information sent out by the customer) will often be performed to help assess the pros and cons / cost versus benefits of different acquisition approaches. It is common for different data companies and service companies to

⁶ This also corresponds to the reasoning of the OFT in *CGG Veritas/Fugro*.

⁷ This discussion is limited to offshore acquisition. It is however notable that similar methodologies are applied, whether an array of receivers or nodes, in the conduct of onshore data acquisition.

propose quite different acquisition solutions to customers, with node solutions often competing against streamer solutions for one and the same project.

- (32) Indeed, in some cases acquisition even takes place using a so-called hybrid approach, where for the same geographic area acquisition is conducted using a combination of towed streamer and nodes placed on the seafloor. Moreover, there is a <u>recent example of</u>
- (33) Last, pricing for acquisition will vary depending on a number of factors; nevertheless, TGS is of the opinion that should price for one technology increase materially over time this will affect demand for the other. The technologies are thus substitutable for customers.
- (34) On the supply side, suppliers are able to fulfill all customer requirements whether they offer streamer, node or a hybrid approach.

Its largest competitors have the necessary resources in house (i.e., own vessels, streamers and related equipment): competitor PGS offers in house streamer capacity, which it complements on occasion with leased nodes for specific projects. Competitor Shearwater offers both in-house node and streamer capabilities, as does competitor PXGeo.

- (35) Barriers to entry for such activity are relatively low: the necessary resources, such as nodes and vessels, are available for lease from third party providers.
- (36) The geographic scope of the market is global. The major players are active across the globe, using the same basic technologies, and the customer base is the same (oil and gas companies). There are no generally applicable regulatory or other barriers that would prevent an actor such as Magseis from providing its service on a global scale.
- (37) The Parties provide below their best estimate, based on information available, of their shares of the market defined above on, respectively, a global market and, for Konkurransetilsynet's information, a hypothetical market consisting of Norway (including the Norwegian continental shelf).

	Global	Norway
TGS		
Magseis		

5.3 The market for the processing of seismic data

- (38) First, the processing of seismic data consists of the computer treatment of the raw data collected during acquisition. That data, which is recorded on physical storage media during the acquisition process, is uploaded to a processing center with powerful supercomputers; the latter apply iterative algorithms to the dataset which ultimately turns the data into images, which can be stored and read by customers.
- (39) TGS is the only Party active in processing Magseis has no such capacity.
- (40) Processing in the context of multiclient surveys is not sold separately in these cases the multiclient data company will be responsible for processing its own data, since it will be the

one to subsequently license the data to customers. In this instance, processing is more in the nature of an input to the production process for a dataset.

- (41) On the other hand, processing is offered as a standalone (proprietary) service (i) in the context of proprietary surveys, where the oil and gas company customer responsible for the survey will in most cases issue separate tenders for acquisition and processing respectively and (ii) reprocessing of existing data, whether proprietary data owned by a customer or multiclient data licensed by the customer. It regularly happens that a data holder such as a customer holding a proprietary dataset or TGS as the holder of its library of multiclient data, or even the holder of a license to such data from the data supplier, wishes to apply improved algorithms to the raw data to obtain a higher quality image from the data.
- (42) As far as TGS is aware customers regard processing services and suppliers thereof as largely interchangeable. In any event, there is extensive supply side substitution TGS and other providers of processing services are able to process whatever format of data required, be that 2D, 3D or 4D. The technical nature of processing is similar independently of the nature of the data, the source of the data or the technical methods used for its acquisition. On this basis, all processing of seismic data constitutes a single relevant market.
- (43) The geographic scope of the market is global, given that both customers and providers are global and are active on a global scale, and the service requested does not vary depending on the part of the world in which the customer is located. In fact, given the nature of the service, essentially an IT processing service, geography plays little or no part and it is thus arguably not reasonable to speak of a Norwegian market for this service. Nonetheless, for the information of Konkurransetilsynet an estimate of a hypothetical Norwegian market shares is also given below.



(44) The above table relates to processing of marine seismic data only. Nonetheless it must be noted that processing of onshore seismic data uses the same or similar techniques to processing of marine data. In other words, a supplier of processing of marine data is also capable of processing onshore data, and *vice versa*; onshore processing suppliers are however not included in the above figures, which therefore overstate TGS' market position.

5.4 The market for the licensing of seismic data

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(45) As regards the downstream activity of licensing of acquired seismic data, only TGS is active at this level.⁹

⁸ There is no data available on local processing: for these purposes TGS' best estimate is

- (46) After processing, which for this data is part of the production process of the data to be licensed, the acquired and processed data is gathered into a library and licensed to customers, typically oil and gas companies. There are a large number of customers as essentially all oil and gas companies use seismic data to explore for, appraise and develop oil and gas. There are also many providers of seismic, be it seismic data or seismic services. Customers may easily seek out which provider or providers have data for a particular geography.
- (47) Demand for seismic data is global. Whilst interest in a given dataset will be linked to the geography to which that dataset relates, market players (predominantly oil and gas companies) are established worldwide and carry out their activities globally; they thus acquire data on a global scale for geographies of interest. On the supply side, data companies are found across the world and sell to customers world-wide, and data is licensed on similar terms independently of the geographic location of the customer or supplier. The scope of the relevant geographic market is thus clearly global, and it is hardly appropriate to speak of a Norwegian market. This being said, please find below estimates of the Parties' shares of such a market worldwide and, for Konkurransetilsynet's information, a hypothetical market consisting of Norway including the Norwegian continental shelf.



5.5 The market for ancillary services

(48) In the decisions referred to above, the OFT also defined a market for ancillary services related to seismic data in the form of strategic advisory services and analysis. As this is not a vertically related activity to the markets defined above, and is in any event not affected by the Concentration, it is not discussed further here.

6. COMPETITORS, CUSTOMERS AND SUPPLIERS

(49) As the parties have no overlapping business on any market, nor on any market of which Norway is part, it is not necessary in a simplified notification to list the Parties' five most important customers, suppliers and competitors, cf. *Retningslinjer for forenklet melding av foretakssammenslutning* § 3(2)d.

7. ANNUAL REPORTS

- (50) The Parties' annual reports are available as follows:
 - TGS: https://2478981.fs1.hubspotusercontent-na1.net/hubfs/2478981/TGS-Annual-Report-2021c.pdf
 - Magseis: https://d2x61jqll3l24.cloudfront.net/files/Magseis-Fairfield-Annual-report-2021.pdf?mtime=20220310214119&focal=none

8. OTHER COMPETITION AUTHORITIES

(51) The Concentration will also be notified to the US competition authorities.

Yours sincerely ADVOKATFIRMAET SCHJØDT AS

Olav Kolstad Attorney Mats Johnsson Attorney

ANNEX 1

Subsidiary	City	Country
4C Offshore Ltd.	Lowestoft	United Kingdom
A2D Technologies, Inc.	Houston	United States
Aceca Ltd.	Woking	United Kingdom
Aceca Norge AS	Oslo	Norway
Carmot Processing AS	Oslo	Norway
Carmot Seismic AS	Oslo	Norway
Digital Petrodata LLC	Houston	United States
Geo Bridge Pte Ltd.	Singapore	Republic of Singapore
Lasser Inc.	Forth Worth	United States
Magsurvey, Ltd.	Woking	United Kingdom
NOPEC Geophysical Company S. de R.L. de C.V.	Mexico City	Mexico
OBS MC Investments I AS	Oslo	Norway
Parallel Data Systems, Inc.	Houston	United States
Spectrum Datagraphic Systems Int'l Ltd.	Woking	United Kingdom
Spectrum Geo AS	Oslo	Norway
Spectrum Geo Australia PTY Ltd.	Perth	Australia
Spectrum Geo CH AS	Oslo	Norway
Spectrum Geo do Brasil Servicos Geofisicos Ltda	Rio de Janeiro	Brazil
Spectrum Geo Ltd.	Woking	United Kingdom
Spectrum Geo Panama LLC	Panama City	Panama
Spectrum Geo PTE Ltd.	Singapore	Republic of Singapore
Spectrum Geo PTY Ltd.	Perth	Australia
Spectrum Geo S.A. de C.V.	Mexico City	Mexico
Spectrum Geo, Inc.	Houston	United States
Spectrum Geophysical Services Ltd.	Woking	United Kingdom
Spectrum Information Technology Ltd.	Woking	United Kingdom
TGS Alaska Company	Houston	United States

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TGS AP Investments AS	Oslo	Norway
TGS AS	Oslo	Norway
TGS Canada Corp.	Calgary	Canada
TGS Canada Ltd.	Calgary	Canada
TGS Contracting AS	Oslo	Norway
TGS do Brasil Ltda	Rio de Janeiro	Brazil
TGS FJ Geophysical (Ghana) Ltd.	Accra	Ghana
TGS Geopex Ltd.	Cairo	Egypt
TGS Geophysical Company (UK) Ltd.	Woking	United Kingdom
TGS Geophysical Investments, Ltd.	Woking	United Kingdom
TGS Mexico Contracting LLC	Houston	United States
TGS NES AS	Oslo	Norway
TGS-NOPEC Geophysical Company	Houston	United States
TGS-NOPEC Geophysical Company PTE, Ltd.	Singapore	Republic of Singapore
TGS-NOPEC Geophysical Company PTY, Ltd.	Perth	Australia
TGS-Petrodata Offshore Services Ltd.	Lagos	Nigeria
Volant Solutions Inc.	Houston	United States
NS Investments One (UK) Limited	Woking	United Kingdom
Prediktor AS	Fredrikstad	Norway
TGS Geophysical Egypt SP	Cairo	Egypt
TGS-NOPEC Geophysical Company Moscow, Ltd.	Moscow	Russia