



Oil companies can save astronomical amounts of money (Opex and Capex) in exploration and production thanks to RSS-NMR

1) Exploration phase – Before the acquisition of new blocks through a pre-seismic survey of RSS-NMR type which avoid purchasing questionable licenses or blocks or the rate of return on investment will be low

2) Operation phase – Re-explore an old oil field to redo the production network instead of developing a new oil field with an unacceptable “Eroi”





Introduction to the “Discrete” RSS-NMR operating mode

HAS- RSS-NMR is the only technique that allows anonymous exploration well in advance of the auction (just after the auction). stage 4 of the clear block acquisition process, see diagram included in this document). If we place ourselves in the context of an auction of new blocks or licenses by a state or a national company which is honest of course! These are blocks or licenses sold to be explored. We recommend checking the development possibilities before making the decision to participate in the auction for a possible purchase. This allows you to have a first idea of the cost of the project (Capex and Opex in estimation) before participating in the auction. Especially if you are asked for a bribe as a bonus!

B- RSS-NMR also makes it possible to evaluate the oil deposits of a competitor with a view to buying it or forming a JV. common with him.

VS- Finally and certainly the most cost killer of Opex and capex, it is the re-exploration of old fields before wasting time on a new project, RSS-NMR allows you to modify your production system, without authorization, permit or EIA , because you are on your block with all permissions from the beginning.

D- We always develop these operations very discreetly without stopping production, you can carry out this re-exploration work as with OBN but RSS-NMR is cheaper and faster (180 days maximum). We do everything from our base. No one in the seller country on the ground, we are in complete discretion!





DEFINITION

Capex , an abbreviation from the English term Capital Expenditure, CAPEX designates a company's investment expenses capitalized on the balance sheet. Generally, the acquisition of tangible assets (such as machines and equipment, license , blocks) or intangible assets (such as software).

CAPEX Oil and Gas Market Analysis

Capital expenditure in the oil and gas sector is expected to increase from USD 797.58 billion in 2023 to USD 983.04 billion by 2028, at a CAGR of 4.27% during the forecast period (2023- 2028). The market was impacted by COVID-19 in 2020.

Currently, the market has reached pre-pandemic levels. In the medium term, increased investment in offshore oil and gas activities due to growing demand for energy, depletion of onshore reserves and efforts by governments of all countries to explore their offshore resource is expected to boost the growth of the market for oil and gas investments in the years to come.

On the other hand, volatility in crude oil and natural gas prices, coupled with slow economic growth globally, is expected to constrain capital expenditures in oil and gas during the forecast period. Nevertheless, several offshore, deep and ultra-deep explorations in the North Sea, Gulf of Mexico and developing countries such as Senegal and Mauritania offer ample opportunities for increased capital expenditures.

North America recorded the highest gains in CAPEX, driven by operations of globally integrated majors, as well as national oil companies and new investments during the forecast period.

Source: <https://www.mordorintelligence.com/fr/industry-reports/global-oil-and-gas-capex-industry>





Not to be confused with **OPEX** (for "operational expenditure"), the operational expenses of the company. In the case of a printer, for example, its cost as well as its possible installation must appear in the CAPEX, when the expenses for paper and ink must be included in the operating expenses or OPEX. A purchased block is a CAPEX when a seismic is an OPEX.

Clearly a Refurbish of mature fields will be an OPEX when a Greenfield project will be a CAPEX but seismic an OPEX

“EROI” (Return on energy investment)

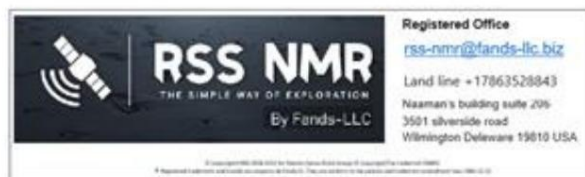
We can talk about another value linked to the decision to continue on a Greenfield block acquired by auction. Here is the “Eroi” energy return rate:

It is summarized by a simple linear equation which ignores economic and temporal variations:

A Product Reference Unit N is used to produce X (multiple or not) of N $1.N \ddot{y}(x)N$

We obtain a result without having to take into consideration the interference of the economy. For the oil industry, we take the barrel of oil (159 liters) as a constant value of N. We will measure the evolution of the costs (Capex and Opex) of the industry.

- 1 barrel is invested to produce 100 barrels in 1900 $1.N \ddot{y}100.N$
- barrel is invested to produce 35 barrels in 1980 $1.N \ddot{y}35.N$
- is invested to produce 20 barrels in 2010 $1.N \ddot{y}20.N$





New blocks put up for sale by a country (NEW PROJECT)

A- Thanks to our technical means, by carrying out an RSS-NMR exploration before knowing if ultimately it is worth participate and a costing of the upcoming project allows you to make the decision at stage 4. (We go there yes or no)

B- The basic idea is that your exploration department has gathered geological and geophysical studies and the probabilities of finding or not finding a exploitable reservoir. With RSS-NMR, very quickly, and well before the auction process, you will know very clearly if • You have interesting reservoirs that justify participation in the

• auction. • No reason to put a dollar into this auction with reservoirs that do not exist or are not easy to put into operation.

vs- The process is very discreet, all done from our geophysical laboratory, without sending a person to the field, without requesting authorization or a permit, in short in perfect silence and without contact with the block sellers.

D- Next you have the process of assigning a block or a license in the rules JUST after stage 4



The block contains the RSS NMR logo and tagline 'THE SIMPLE WAY OF EXPLORATION' and 'By Fands-LLC'. To the right, it lists the 'Registered Office' with the email 'rss-nmr@fands-llc.biz', land line '+17863528843', and address: 'Naaman's building suite 206, 3501 silverstone road, Wilmington Delaware 19810 USA'.



Open Contracting for Oil, Gas and Mining Rights

Transparency in the allocation and management of oil, gas and mining rights can improve industry engagement, competition and civic trust. These recommendations and good practice examples show how governments are making a difference.

1 THINK ABOUT THE BIG PICTURE
To those who lack an understanding of the wider legal and regulatory processes and players who oversee the granting of resource rights, information can appear jumbled and confusing.

2 Reconcile information needs of companies and citizens.
Consult widely to avoid a situation where information disclosure is overwhelmingly designed for one stakeholder group.

3 Communicate who the decision-makers are.
Disclose the identity of decision-makers responsible at each stage of the contracting process.

4 DISCLOSE INFORMATION ABOUT THE GEOGRAPHICAL AREAS TO BE OPENED UP TO EXTRACTIVE INDUSTRY CONTRACTING AND WHY.
Disclose information about the process for deciding whether to open new areas to extractive activity as well as clarity on the boundaries of those areas.

5 RECONCILE SUB-SURFACE AND SURFACE RIGHTS AND THE NEEDS OF THEIR USERS.
Allow all stakeholders to identify and reconcile overlaps existing between their sub-surface and surface rights and needs.

6 PUBLICLY EXPLAIN THE CHOICE BETWEEN DIFFERENT ALLOCATION METHODS AND HOW THEY APPLY IN DIFFERENT SITUATIONS.
Where multiple types of allocation processes can be used, clarify which allocation approach applies in a given area.

Before continuing further in the auction process, an RSS-NMR exploration will give you an idea of the reserves and reservoirs available in the blocks offered by the country

Exploration by RSS-NMR allows observation before participating in the oil block allocation auction (after 4 and before 5)

7 ALLOCATION & AWARD
Allocation processes may range from highly visible competitive bid rounds to routine non-competitive rolling applications. Some basic transparency requirements apply in all cases.

8 Publish the rules of the game.
Publish overall rules for the process including timelines, application requirements and the criteria used to assess companies.

9 DISCLOSE WHO STANDS TO BENEFIT.
Publish the names of all companies applying for rights along with information about their beneficial owners. This should be used to screen applicants for conflicts of interest and corruption risks.

10 DISCLOSE REGULATOR ENGAGEMENT WITH PROSPECTIVE COMPANIES.
Disclose regulator engagement with prospective companies as well as all queries and clarifications.

11 CONDUCT AND DISCLOSE CONSULTATIVE PROCESSES WITH COMMUNITIES.
Disclose information about consultative processes with communities relating to the award of rights.

12 DISCLOSE ALLOCATION OUTCOMES.
Disclose key details about the awards, ideally alongside information justifying why and how certain decisions were made.

13 THE CONTRACT
Transparency of contracts, licenses or permits is key because these documents set out the terms and conditions linked to the right to explore or exploit natural resources.

14 DISCLOSE INVESTMENT, PRODUCTION AND RESERVES.
Regularly disclose updated information regarding reserves, investment, exploration and production on a project-by-project basis.

15 DISCLOSE REVENUES AND BENEFITS.
Produce project-level disclosures in line with EITI requirements, ideally mainstreamed into government systems rather than standalone reporting, and with payment and benefit flows broken down to level of greatest relevance to citizens.

16 TRACK AND DISCLOSE CONTRACT COMPLIANCE.
Publish project level data on commercial, social and environmental outcomes against project level rules to track compliance.

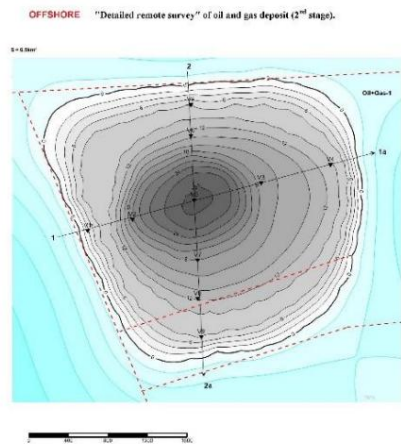
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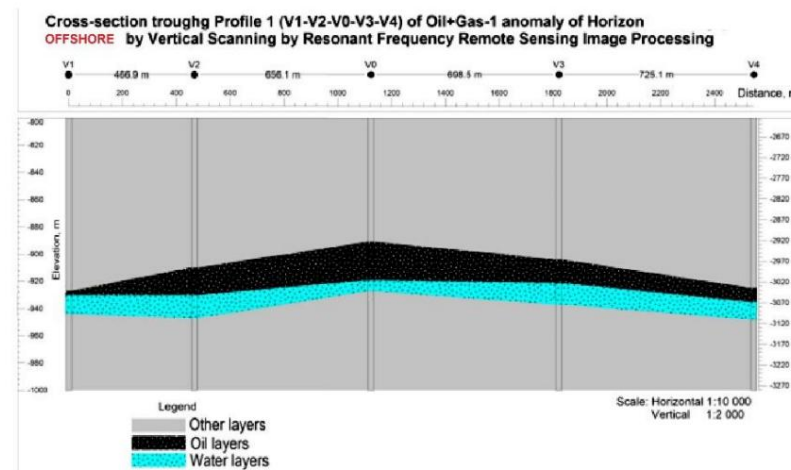


Study before the takeover of a company or the formation of a JV on an existing project such as Green Field or Brown Field

- The basic idea is that even if you have all the documents, curves and forecasts of a project, block or company has buy again, nothing beats a discreet but complete verification.
 - No one on the ground, all discreetly and gently, once this verification is done you begin negotiations with the company selling or offering a JV
 - After checking at <https://www.rystadenergy.com> and our discreet studies you will have the real situation of the assets to be purchased



Fault zones are shown in red. Black lines indicate relative signal response levels.
An in-depth scan was made over two sections of the deposit 1 - 1a and 2 - 2a at points V0 - V4 and V5 - V9, respectively.
The following figure shows an example of a deep section of the oil horizon at points V0 - V1.



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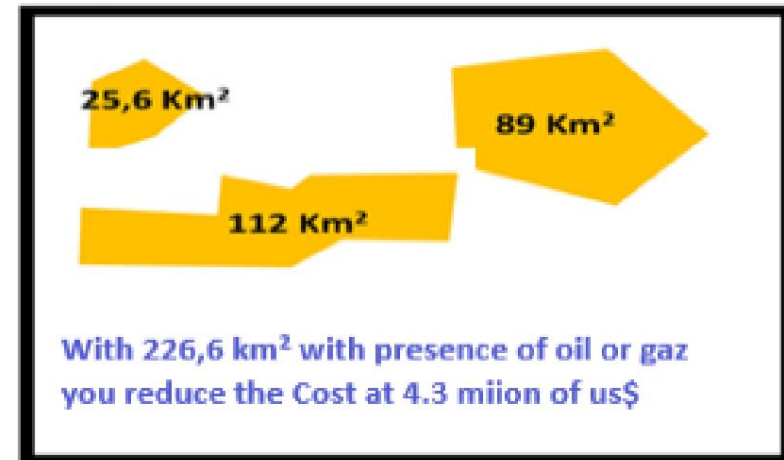
Pre-exploration of a blank type block – never explored

If you decide to do a complete seismic survey on a new oil block, a pre-exploration using RSS-NMR allows you to reduce the costs of this systematic seismic exploration through an RSS-NMR study then a determination of the zones to exploit.

Systematic seismic (all the bloc)

Superficie	1200km ²
Cost /km ²	19000,00 us\$
Total	22.8 millions us\$

With a RSS-NMR pre exploration you can do a selective seismic



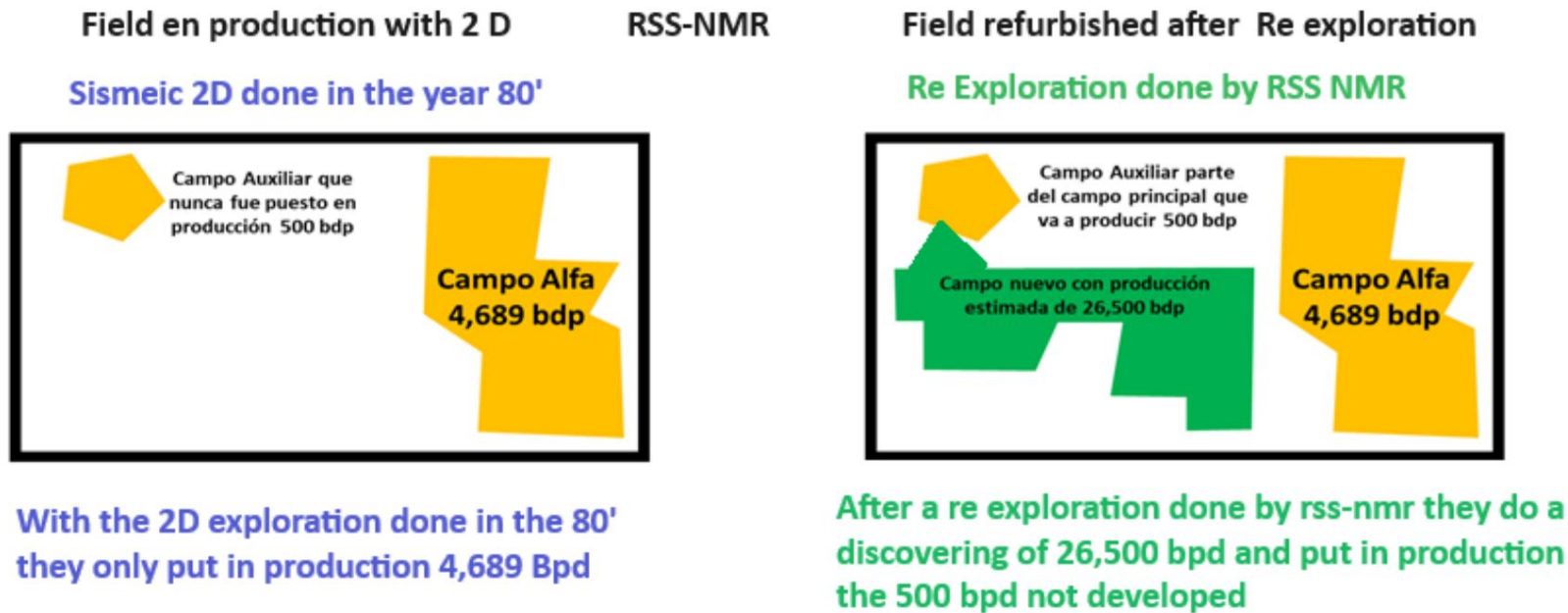
In this (real) example, thanks to the pre-exploration carried out using RSS-NMR, the seismic costs will be 4.3 million dollars instead of of 22.8 million dollars and a time saving of 1 year.



Re-exploration for modification of old oil fields

RSS-NMR also allows you to evaluate old oil fields, your fields for a Refurbish or those of a competitor in sight to buy it back or form a JV. Instead of wasting time and money on a new project, this allows you to modify your production system, without authorization, permits or EIA, because you have been on your block with all the authorizations for a while and above all without stop production.

-You can re-evaluate your reservoirs to modify the production system (with the Fairfield Nodal offshore OBN) The saving in time and money is considerable because the analysis of anomalies detected by 2D, 3D, OBN or other Nodes remains long and with heavy computer processing.



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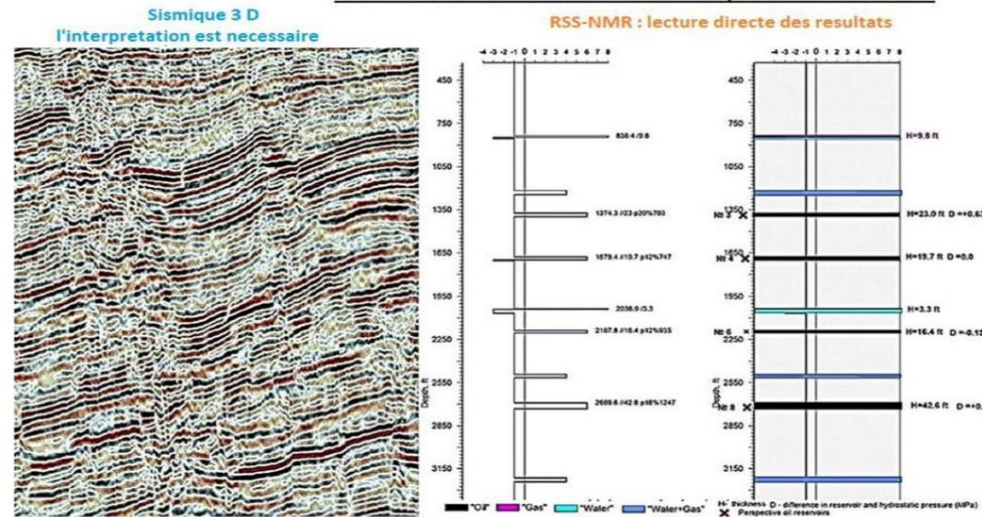
RSS-NMR Versus 2D, 3D, OBN or node seismics

The exploration operating plan for the exploitation of the results remains the same (6 to 24 months) with 2D, 3D but also with OBN and other Nodes.

The only interest is to have a new photograph of your tanks without stopping production to be able to modify your network of production after studies

Symboliquement, la différence entre les technologies est illustrée par la figure suivante:

Resultats des etudes remises au client sismique 3 D versus RSS-NMR



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-With RSS-NMR you can start drilling operations on a Green Field or Brown Field rehabilitation in less than 6 months.

- It is particularly important to see a solution in the strategic orientation of your E&P towards re-exploration for a adjustment of the production system with a corrective plan adjusted to your Brown Field.

-The 2D and 3D seismics presented many defects in the acquisition but also in the studies of anomalies.

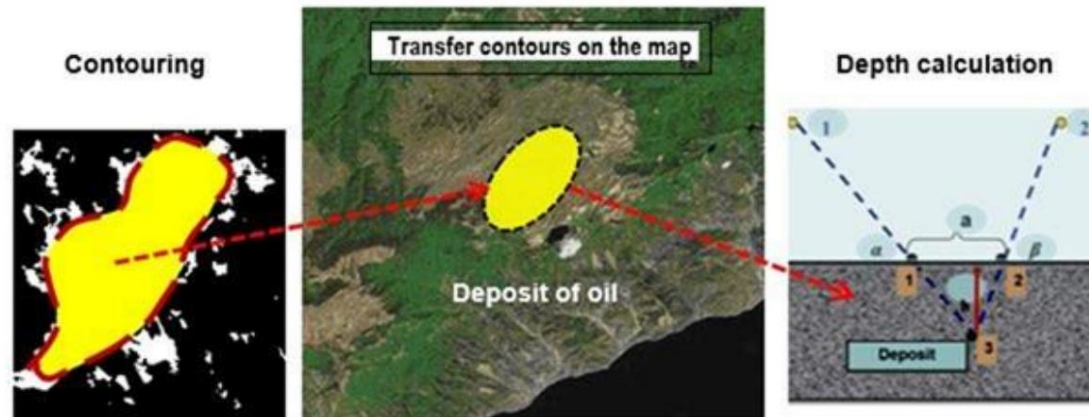
- With RSS-NMR, it is possible to develop a Greenfield field but the most important thing is the observation of the reservoirs of your field in production (mature and old fields).

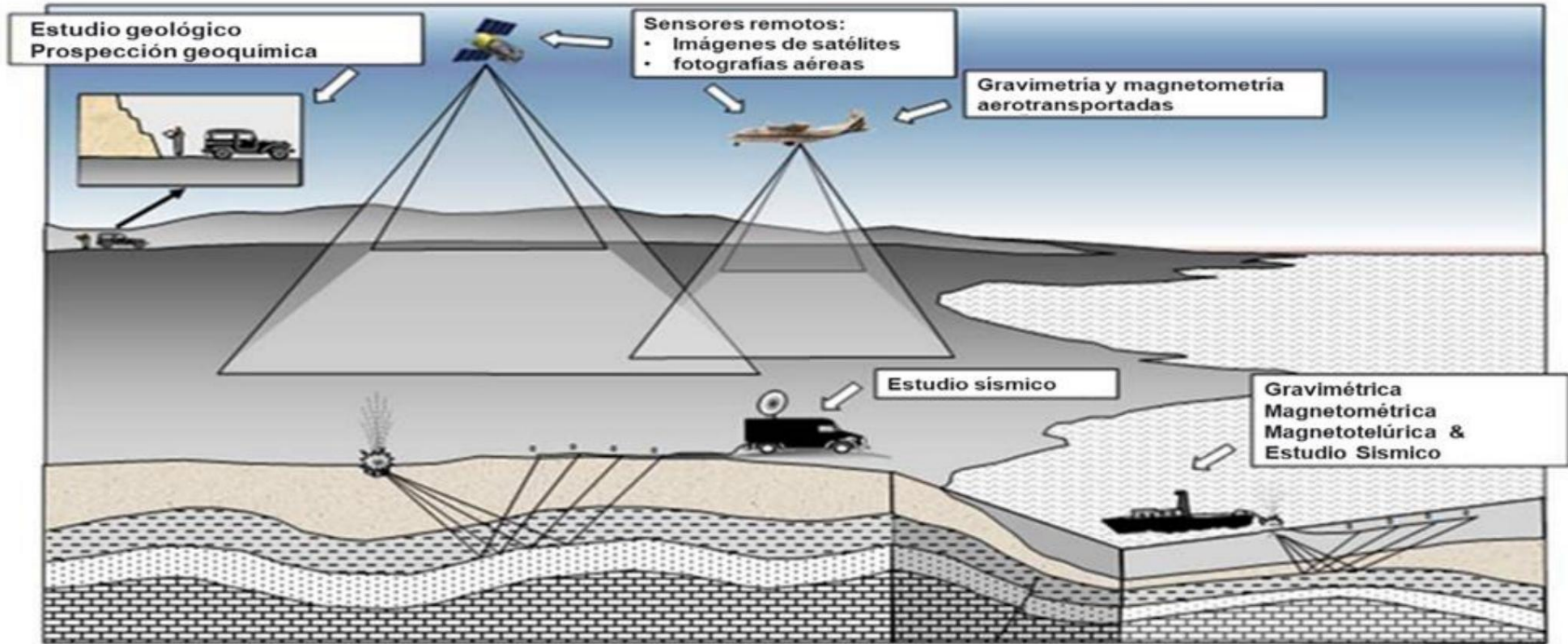
- This operation is still developing without stopping production. You can take a new photograph of your own fields to decide on a modification of the production network without going through a license or permit,

-You can modify as you want because you are in your own license and in your own block purchased a few years ago!

-For your OPEX, With RSS-NMR you do not need authorizations, permits or licenses, because everything is done remotely without presence human on the ground.

2.4. Detected object snap (fixation)





Evolution of technology for seismic-based explorations



History of the development of technologies of exploration and production		
1883	Theory of the anticline	Prehistoric period of exploration
1900's	Rotary perforation	1ro period 1850 - 1930
1914	Seismography studios	exploration based on flora and surface area indices
1924	Logging of low water and fluid levels	
1930's	1st point to the sea (offshore) extension to the sea (>10 meters depth)	
1930	Seismic point with 1D type image	
1930's - 1940's	Geography generalization of 1D	2do period 1930's 1950's
1950's	Accurate geologic correlations from 1950 Improvement of seismic and seismic herramientas Logging	Exploring the "random" type of oil fields
1960's		
Digital computer	2D image of the subsuelo (busqueda de anomalies to study)	3rd period 1950's 1970's
Grieta-continental rift	Improved structural awareness (1969)	"Semi-calibrated" exploration
Diagraphy	Rock and subsurface fluid properties	
Migration 2D (1970)	Calibrated digital seismic	
Directional perforation		4th period 1970's 1980's
Rock Eval concepts	"Roca mother and training of HC" methodology more complete	"Calibrated" exploration
Stratigráfico analysis	Improved prediction	
1983 seismic 3D	Improved precision of perforation objects	5to period 1980's 1990's
1985 petrol system	Allows the better definition of areas with potential	Exploration of optimized production
1990 to 2010		6to period 1990's 2010's
2D and 3D simulation of bases and embalses		Exploración "exploración de production racionalizada usando las mejoras de las tecnologías antiguas"
Prediction of movements and release of fluids		
Seismic predictions and 4D fluid monitoring and dynamic extensions		
2010 to 2020		7to period 2010's
Appearance of new technologies of exploration very localized and very selective that its the revolution in front of the technology of antigua de seismic 2D/3D (modo sistematico de exploración)		"Nuevas techniques of selective exploration very localized or for a very large surface area
OBN in high condition used by Total Energy to explore old deposits to modify the production code		(Pre-seismic evaluation)
https://ep.totalenergies.com/en/expertise/reservoir/ocean-bottom-nodes-obn-wide-offshore-seismic-acquisition-campaign-improve		
RSS-NMR exploration using satellite images that allow you to delimit the presence of hydrocarbons up to a depth of 6 km (onshore/offshore) on very large surfaces in a long time.		
The big news is that the product is directly affected by abnormal faults.		
It is a technology that is not limited to hydrocarbons and determines the prediction zone of hydrocarbons, but also water, metal or gems		
The ideal technology to determine the large areas the presence of the buscado product		



Geophysical methods

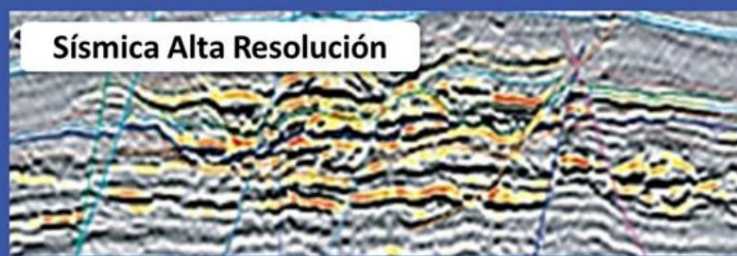
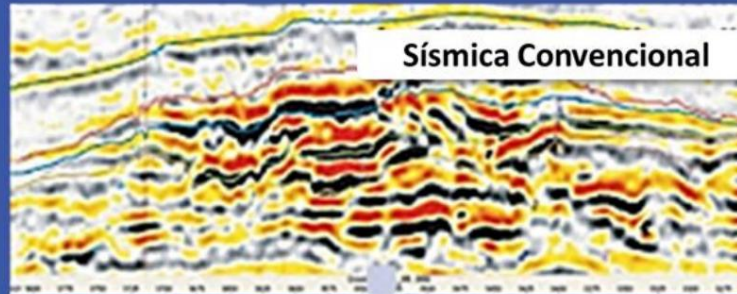
Method	Measured parameter	“Operative” physical property
Gravity	Spatial variations in the strength of the gravitational field of the Earth	Density
Magnetic	Spatial variations in the strength of the geomagnetic field	Magnetic susceptibility and remanence
Electromagnetic (SeaBed Logging)	Response to electromagnetic radiation	Electric conductivity/resistivity and inductance
Seismic	Travel times of reflected/refracted seismic waves	Seismic velocity (and density)

Refractive seismic, reflection seismic, OBN now, well seismic, in general it's expensive, it's a cumbersome process, sometimes it can't not work. On a mature field, it would be necessary to dismantle and stop production, it is impossible and no one has ever done it. The beginnings of a solution were evident thanks to offshore seismic with an OBN technique, but the collection of data, the costs and the means implemented for the analysis are expensive and time-consuming.





Sísmica convencional vs Sísmica de alta resolución



We can take a photo of the tank at sea in waters that are not too deep without stopping production. Decisions have to be then to rework the technical means on this old field which was highlighted with a 2D seismic then the OBN made it possible to correct the situation and raise the production levels, finally this is what I think of this Operator developing this OBN must think about doing or has done its analysis which it has re applied to Qatar, it wants to follow the evolution of its reservoirs. We must re-explore the old fields made in 2D and 3D



THE WORLD AND TECHNOLOGY ARE EVOLVING EVEN IN OIL EXPLORATION

Let's start with an example that may concern you or a loved one because now we can do an ultrasound of the heart with a smartphone and a Butterfly... in the office or living room! Go to <https://www.butterflynetwork.com/>

The medical examination is carried out using a cheap, simple cell phone. In fact we change the size of the tool, and the operating costs, the investments (no more need for an imaging clinic for the doctor) but without changing or improving its usefulness and above all its speed of diagnosis is the main advantage because it can be carried out at the moment, without an appointment and on site in the event of serious accidents requiring immediate intervention. This is what we now offer with RSS-NMR for seismic studies.



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Even more obvious to understand the evolution of technology and its importance, we take as an example the evolution of IT but especially the evolution of Hardware like laptops since 1984



Telephony and seismic

Going Mobile | The evolution of the cellphone

1982 Mobira Senator Finnish company Mobira Oy, a precursor to Nokia, introduced its first car phone, the Mobira Senator NMT-450. It weighed about 22 pounds.	1984 Motorola DynaTAC 8000x The first cellphone to be offered commercially hit the market priced at \$3,995 (\$9,237 in 2012 dollars) and weighed just under 2 pounds.	1987 Mobira Cityman One of the world's first handheld phones, the Cityman weighed 28 ounces with the battery.	1989 Motorola MicroTac Initially manufactured as an analog cellphone, the MicroTac was an early example of a flip phone, in which the mouthpiece folded over the keypad.	1992 Nokia 1011 The first digital handheld phone, the Nokia 1011 would become the company's best-selling phone ever.	1993 BellSouth/IBM Simon Personal Communicator First phone with a touch screen and smartphone features (pager, calculator, address book, send/receive faxes, games and email). Cost about \$900.	2000 Ericsson R380 The first device marketed as a smartphone.	2002 BlackBerry 5810 Made by Research In Motion, the 5810 was a cellphone with organizer functions and a keyboard for thumbs; a wired headset was mandatory.	2004 Motorola Razzr Was part phone, part fashion accessory. In the Razzr's first four years, Motorola sold more than 110 million units.	2007 Apple iPhone Hundreds of people lined up outside Apple stores to buy the first iPhone, priced at \$499 (4GB) and \$599 (8GB).

Source: WSJ research; Photos: Nokia (2), Motorola (2), BlackBerry, Ericsson, Associated Press

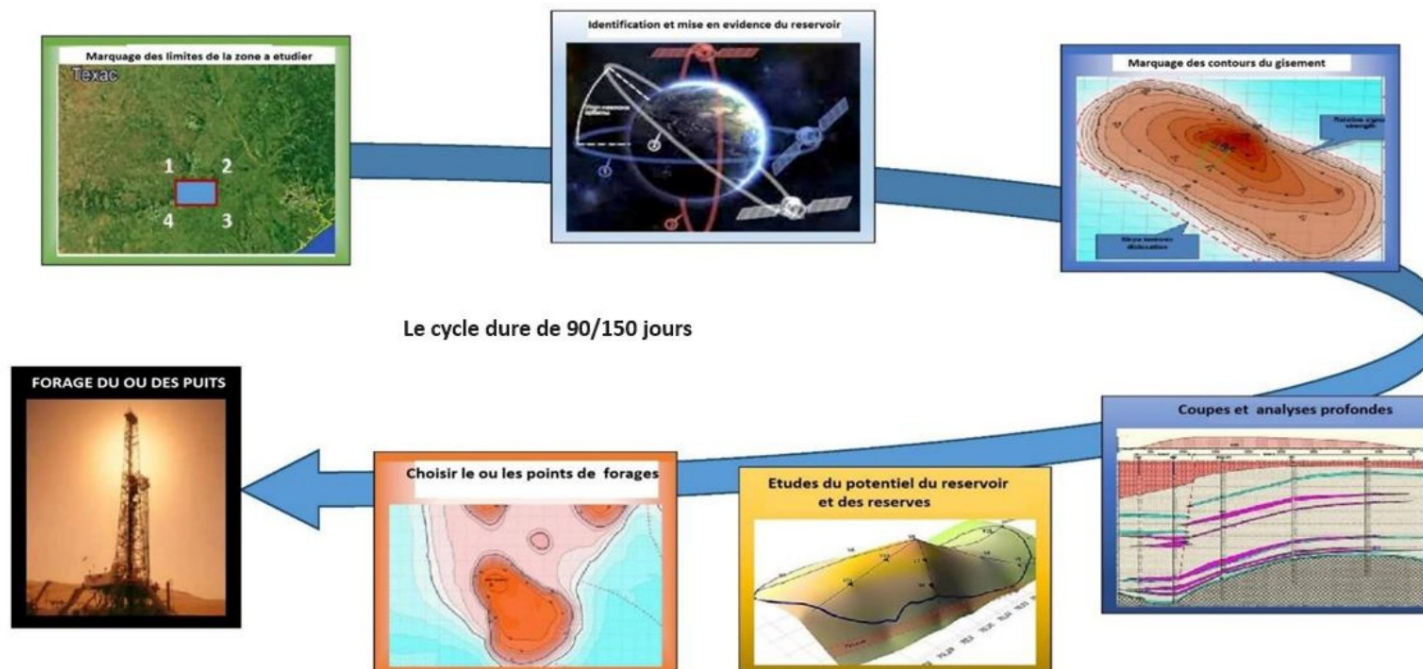
1D 2D archaic 2D 3D Nodes et RSS-NMR

Evolution of mobile phone and seismic technology

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Comment fonctionne la RSS pour la recherche de reservoir (huile, gas, eau) à distance et directement





CONCLUSIONS

The Ukraine/Russia war is seen by many developing countries as an opportunity not to be missed for make money on the backs of the West. Since Russia is under embargo, developed countries need new producers to ensure their consumption in GDP. Let's sell them at any price, in the economic interest zone of 200 miles of blocks to explore, this will make cash!

With the RSS-NMR, it is the end of the monopoly of governments which claim that the use of the energy embargo as a weapon by the Europeans against Vladimir Putin allows them to authorize themselves to blackmail the blocs and licenses through auctions but at very high price levels.

With RSS-NMR you can do a pre-exploration of the block put up for auction to define your interest And this without the governments knowing because we are anonymous, you can also evaluate the assets of a "colleague" to buy it or create a JV.

Finally, the most interesting thing is to self-evaluate to modify the production network and modify it according to new observations.

Info on RSS-RMN <https://urlis.net/fands-nmr>

