

Interim financial report - Half-year 2016



DEINOVE
The deinococcus way

DEINOVE SA with a capital of 3,432,218.80 Euros

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1 | MANAGEMENT AND ADMINISTRATIVE BODIES

1 | 1 Board of Directors

Chairman of the Board of Directors:	Dr Philippe Pouletty
Directors:	Truffle Capital, represented by Christian Pierret Michael Carlos (Independent Director) Paul-Joël Derian (Independent Director) Dennis McGrew Rodney Rothstein (Independent Director) SAKKAB LLC, represented by Nabil Sakkab (Independent Director)

1 | 2 Management

Chief Executive Officer	Emmanuel Petiot
Director of Finance & Administration	Julien Coste
Director of Research & Development	Jean-Paul Leonetti
Director of Operations	Marie Bézenger
Business Development Director	Dennis McGrew
Marketing, Communications & Investor Relations Manager	Coralie Martin

2 | 2 | INTERIM ACTIVITY REPORT

2 | 1 Deinove

2.1.1 The starting point for DEINOVE's entrepreneurial project: exploit the properties of a new variety of bacterial strains for industrial applications

DEINOVE's entrepreneurial project fits within a widespread movement of innovation in the biotechnology industry to produce molecules from plant-based raw materials, and break away from the traditional, largely petroleum-based, chemical synthesis model. This movement aims to significantly transform the way industrial production is organised to reduce the use of fossil raw materials by replacing them with renewable raw materials, and therefore help reduce greenhouse gas emissions and a dependency on a petroleum-based energy system.

Based on the work of Prof Miroslav Radman, who highlighted the extraordinary metabolic properties of the bacterial genus *Deinococcus* and its potential as a new biological production host, DEINOVE has built its business around finding ways to use this, as yet, un-explored resource. Its purpose is to develop new production processes to create molecules of interest by drawing on *Deinococcus*' specific features to forge itself a competitive edge that generates value.

Founded in 2006, DEINOVE initially carried out a vast campaign to collect and select rare strains that are particularly resistant to UV radiation. As a result, DEINOVE now has a 6,000-strong strain bank, largely made up of strains from the genus *Deinococcus* but also of a variety of other bacterial genera.

The Company now has 52 employees. Since its creation it has formed academic partnerships with the CNRS, the Institut Necker-Université Paris Descartes, INSA Toulouse, INRA, VTT (technical research centre of Finland), TWB (Toulouse White Biotechnology) and the Lille Université des Sciences et Technologies. These partnerships are helping DEINOVE to team up with technologies and top-level research workers in all the scientific disciplines needed for the development of its products.

DEINOVE also benefits from a management experienced in research, development, finance and business development, a world-renowned Scientific Committee and a Board of Directors with wide experience in the European and international industrial environment. This organisational structure enables DEINOVE to anchor its disruptive technologies in the real world of industry, both now and in the future.

DEINOVE has been listed on Alternext since April 2010 (ALDEI – code ISIN FR0010879056).

2.1.2 Fields of application explored

DEINOVE works on classifying the bacteria in its strain bank to identify the various compounds they could produce. Though this strain bank is far from being fully examined, many compounds have already been identified, some of which are completely innovative. Since 2009, industrial requirements and DEINOVE's early classification work have led to the company to focus on two main areas of development:

Production of 2nd generation biofuels

The objective is to exploit the physical and metabolic properties of *Deinococcus* (heat resistance, ability to degrade biomass) to develop a consolidated bioproduction process able to, within a single production cycle, degrade complex organic matter and ferment these into ethanol that can then be used as fuel. The main challenge is to develop competitive technology that can substitute both petroleum-based fuels and 1st generation biofuels made from food resources.

DEINOL project partners

In 2009, DEINOVE launched the DEINOL R&D programme with €6.6M in funding from Oseo (now Bpifrance), in collaboration with the CNRS, Université de Montpellier, INSA Toulouse and the cooperative sugar group Tereos. After deciding to subsequently change its strategy, Tereos was replaced in 2014 by Spanish group ABENGOA, Europe's largest producer of conventional biofuels.

DEINOVE then expanded its avenues in terms of usable substrates, first in 2014 by signing a new industrial partnership with the SUEZ group with the view to use household and urban waste as a raw material. DEINOVE also signed a deal with Michigan Biotechnology Institute (MBI) to test its technology on their industrial substrates: maize residues pre-treated with

AFEX® technology. In 2015, TYTON BIOENERGY SYSTEMS formed a partnership with DEINOVE to test the DEINOL technology on energy tobacco. In 2016, a similar agreement was signed with ARBIOM to test DEINOL on forestry residues.

DEINOL project progress

So far, DEINOVE's teams have been able to:

- select and optimise a *Deinococcus* bacterial chassis for industrial production constraints;
- establish a strain able to produce ethanol by hydrolysis and the fermentation of various vegetable raw materials;
- produce ethanol with an alcohol content of 9% wt/v (7.3% v/v) in a 300l-fermentor using C5 and C6 sugars (representative of the composition of biomass);
- improve the strain's tolerance to inhibitors common in 2G substrates.

Despite this progress, the prospect of quickly generating income from this activity does not currently seem realistic given economic factors and the market's current structure. This context has led DEINOVE to review its biofuel strategy and suspend its DEINOL programme. (See 2.2.5 Post-closure: strategic focusing).

Production of bio-sourced chemical compounds

The interest of *Deinococcus* in the production of bio-sourced chemical compounds was found in 2009 and led to the launch of the DEINOCHEM project. The project focuses on isoprenoids, one of the largest families of natural substances in the world, and the object of numerous industrial applications.

In November 2013, DEINOCHEM received €5.9M from the *Investissements d'Avenir* (Investment for the Future Programme), following a call for projects in plant chemistry initiated by the Energy Management Agency (ADEME) and the French National General Commission for Investment (CGI).

DEINOCHEM now has several areas of research:

- **Carotenoids:** this family of molecules, naturally present in many living creatures, are known for their colouring, antioxidant and photoprotection properties. The applications for these molecules are continually multiplying in areas of human and animal nutrition, cosmetics and health. Most of current production is made from petrochemicals. Molecules extracted from plant matter have the highest growth but their development is restricted by low production levels and high production costs.

DEINOVE's aim is to offer industrial actors a competitive bio-sourced alternative by developing a range of natural carotenoids produced by biotechnology that offer significant advantages in terms of supply and quality stability, conservation of natural resources and, finally, costs.

Several *Deinococcus* strains naturally produce an original carotenoid, the Deinoxanthine. By optimising this metabolic pathway, DEINOVE has also been able to produce five other types of commercial carotenoids. DEINOVE's aim is to produce hundreds of molecules more competitively and sell them on end-user markets.

- **Muconic acid**, a chemical intermediate whose derivatives – caprolactam, terephthalic acid (a precursor to PET) and adipic acid - are widely used in the plastics industry and the production of synthetic fibres for textiles (nylon). DEINOVE has developed a bacterial cable to produce muconic acid from cellulose. This programme, named DEINOPLAST, was among the winners of the 2nd edition of the Worldwide Innovation Challenge (see 2.2.2).
- **Molecules naturally produced** by the strain bank: DEINOVE continues to examine its strain bank to identify and select other compounds that could be exploited.
- **Compounds produced by metabolic optimisation:** the bacterium is modified to make it produce a compound that is not naturally produced by its metabolism and that may be more or less close to this.

Partners of the DEINOCHEM programme

- **AVRIL (formerly Sofiprotéol):** launched its COLOR2B project in 2012 for the production of natural additives in animal food. Following the achievement of key milestone 1 (selection of 20 strains of interest) in 2015, the project is now in the process of assessing these strains of interest through both laboratory and *in vivo* testing. At the end of this R&D partnership (3 years), AVRIL and DEINOVE will examine the possibility of developing a range of animal nutrition products.

- **Flint Hills Resources:** announced late 2015, this programme targets the production of additives for animal feed using *Deinococcus* bacteria and raw material provided by Flint Hills Resources. FHR, a subsidiary of KOCH INDUSTRIES - one of the largest private companies in the world, is a leading refining, petrochemical and biofuels company in the United States. Flint Hills Resources covers the R&D costs of the project. If successful, the two companies will study the terms of a licensing agreement for the technology developed during the project (for a period of 17 months).

Projects with other partners have been initiated and are under going validation.

The search for new antibiotics

From the beginning, DEINOVE has sought to explore all of the possibilities *Deinococcus* can offer medical research, particularly by their production of antibiotics and antifungals.

Deinococcus bacteria are largely under-studied and under-exploited, though bacteria are some of the most efficient antibiotics producers of the living world and could present great potential for accessing new antibiotic structures and molecules of therapeutic value.

To validate the antibacterial potential of its rare strain library, DEINOVE launched an exploratory research programme in 2009 with backing from Oseo, the Languedoc-Roussillon region and the European Regional Development Fund (ERDF).

The Company identified more than 50 bacterial strains with antibacterial activity.

Given these promising results, in June 2012, DEINOVE created DEINOBIOTICS SAS, a subsidiary dedicated to the research and development of antibiotics and antifungals, opened DEINOBIOTICS SAS's capital to the HOLDING INCUBATOR GREEN CHEMISTRY and chose Dr Dominique LE BELLER, one of the best French specialists in the research and development of antibiotics, as CEO of the new company.

To carry out its research, the DEINOBIOTICS team draws on the company's 6,000-strong strain library and network of academic and industrial partners.

The main R&D activities are carried out at the Institut Charles Violette in Lille 1.

At this stage, DEINOBIOTICS is progressing as expected on its candidate drugs and is enriching its technological platform with the view to accelerate its capacity to discover new original antibiotic structures that can be used to fight multidrug-resistant organisms. A first candidate drug, presenting particularly interesting antibiotic activity, has been classified and selected for efficacy and pharmacology trials.

2.1.3 DEINOVE technology

A bank of more than 6,000 strains

DEINOVE is the only company in the world to exploit the genetic and metabolic potential of the bacterial genus *Deinococcus* for industrial purposes. This bacterium, discovered by chance in 1956, has exceptional properties that have, as yet, never been commercially developed.

DEINOVE has collected and classified a total of 6,000 strains of *Deinococci* and other bacteria characterised by their UV resistance. Generally speaking, these original strains have been little studied but display extremely varied physical and metabolic properties.

One of DEINOVE's skills resides in its ability to examine its strain bank in order to identify those that naturally produce interesting compounds that can be extracted and exploited at the industrial level.

Its second major skill consists in selecting bacteria with industrial-potential properties and in optimising their natural capacities using genetic and fermentation engineering to lead them towards hyper-production of a given compound.

A world-class genetic and metabolic and engineering platform

Since its creation, DEINOVE has continually invested in the development of a metabolic engineering platform, initially designed for the *Deinococci* bacteria before being extended to other bacteria in the strain bank. With the automation of the platform, its capacity and efficiency have been strengthened over time. Thanks to these efforts, the Company now has access to an extremely sophisticated tool, both for strain design and for fermentation engineering, namely:

- a patented bacteria selection process using radiation;

- a strain conservation system that guarantees the durability of the strain bank, the Company's strategic asset;
- an automated strain creation platform paired with computer-aided genetic design software programmed to produce specific strains that match target molecules, raw material and fermentation conditions;
- a fermentation engineering platform that continually assesses the performance of the strains produced and identifies areas of improvement for each process so as to guide the genetic engineering work.

DEINOVE is therefore able to multiply research pathways and obtain proofs-of-concept in very short periods. This represents a significant advantage when engaging in talks with possible industrial partners.

Robust intellectual property

In this way, DEINOVE is developing a one-of-a-kind intellectual property portfolio and cutting-edge industrial bioprocesses. At present it has a portfolio of 21 patent families (with more than 170 patent applications placed internationally, in particular in Europe, Eurasia, the USA and China). These patents cover genetic engineering techniques for *Deinococcus* and their exclusive capacities such as biomass degradation, and their various industrial applications, such as bioenergy, green chemistry, animal feed, and others.

2.1.4 DEINOVE's business model

DEINOVE is a company that develops new industrial technologies and new molecules. Depending on the molecules produced and application markets, DEINOVE may decide to employ various economic development methods:

- sale of the operating rights of its patented process to industrial third-parties (product by product, territory by territory) through licensing agreements. These licensing agreements follow joint development agreements lasting two to three years during which time DEINOVE works to perfect the procedure (adaptation of strains to the needs of its industrial partner), then both partners undertake scaling up. The license covers a strain constructed specially for the procedure envisaged and a report known as the "process book" describing strain application;
- direct sale of speciality compounds that may be initially produced by DEINOVE, as part of small production batches, then sub-contracted for scale-up and main production. In priority, DEINOVE will target high value added compounds on niche markets that trade high prices and low volumes. This approach will allow the Company to directly address the needs of industrial actors in the nutrition, cosmetics, health sectors, who see these molecules as ingredients that they can then integrate into their own end-product manufacturing processes.

DEINOVE therefore has the possibility of generating revenue from four different areas:

- the industrial partner partially or fully covers the research efforts undertaken as part of the R&D project;
- public financing in the form of grants or repayable advances granted by organisations supporting the research, such as Bpifrance, ADEME, or others;
- an upfront payment (access rights to the technology) followed by royalties received from product sales resulting from DEINOVE processes under licensing agreements;
- turnover from the sale of molecules to industrial actors (B to B).

2 | 2 Description of key events and activities of Deinove during the first half year of 2016 and post period-end

2.2.1 Legal elements

On the legal front, the 1st six months of 2016 were marked by the following key developments:

- By decision dated 3 February 2016, the Board of Directors announced the lapse of 60,000 Employee Stock options referred to as "BCE-2015-3" issued and allocated by the Board of Directors at its meeting of 2 February 2015, as to replace all Employee Stock options referred to as "BCE-2013-2" and none of which were exercised.
- By decision dated 22 March 2016, the Board of Directors, in accordance with the delegation of authority granted by the Combined General Meeting of 6 May 2015 (10th resolution), decided to issue and allocate 25,000 *bons de souscription d'actions* (share warrants) referred to as "BSA-2016-1" giving the right to subscribe to 25,000 ordinary shares of a nominal value of €0.40, at a price equal to the weighted average price of the last five trading sessions preceding the date of the share award, i.e. €3.8684.
- DEINOVE subscribed, on 4 May 2016, 500,000 bonds referred to as "O-2016", with a nominal value of €1.00, issued by DEINOBIOTICS on April 29th, 2016, and representing a total subscription of €500,000. The main terms and conditions of this bond loan are the following: annual agreed interest rate of 6% for a term of 36 months (maturity date on 29 April 2019) that is tacitly renewable by terms of one year within a limit of two additional years. DEINOBIOTICS' reimbursement of the loan may be made in priority by DEINOVE's subscription to reserved issuance of ordinary shares subscribed and paid by offsetting its bond loan, or alternatively, by cash payment.
- By decisions dated 28 June 2016, the Board of Directors acknowledged:
 - i. The effective realisation of a capital increase for an overall nominal amount of €8,216 through the issue of 20,540 new shares of a unit price of €0.40, resulting in the exercise of 20,540 "BSA-B", bringing the share capital from €3,421,962.80 to €3,430,178.80, and modifying the articles of association in correlation to the capital increase.
 - ii. The effective realisation of a capital increase for an overall nominal amount of €2,040 through the issue of 5,100 new shares of a unit price of €0.40, resulting in the exercise of 5,100 Employee Stock options referred to as "BCE-2009-1", bringing the share capital from €3,430,178.80 to €3,432,218.80, and modifying the articles of association in correlation to the capital increase.
 - iii. The lapse of 20,540 *bons de souscription d'actions* (share warrants) referred to as "BSA-2012-1" issued and allocated by the Board of Directors on 16 February 2012 in accordance with the delegation of authority granted by the Combined General Meeting of 24 September 2010, and modified by the Combined General Meeting of 3 May 2012,

During this meeting of 28 June 2016, the Board of Directors also approved the reactivation of the 2nd tranche of a equity line of financing to the order of €3.6M and issued on 19 May 2015¹, by amendment to the agreement initially signed on 1st December 2014 between the Company and Kepler Cheuvreux.

During the first half of 2016, it is recalled that the Board of Directors met three times, on the 3 February, 22 March and 28 June.

¹ See Press Release of June 15, 2015

2.2.2 Progress made on research projects

DEINOCHEM: plant chemistry

Validation of Carotenoid programme's 2nd key milestone - €1.5M payment received from ADEME²

Following the first key milestone focused on optimising the construction of modified strains, DEINOVE announced the validation of the second milestone in June 2016. This step has led to significant progress in:

- sequencing and annotation of around 100 strains, which led to the identification of genes of interest and the establishment of a comprehensive collection of "Deinobricks": DNA fragments that can be used for strain optimisation;
- strengthening the fermentation capabilities (x10) through acquisition of new equipment and the development of software to process data generated by the fermentors. Now 32 different fermentation conditions can be tested in parallel;
- achievement of targeted production yields up to five times greater than that of the wild strain, demonstrating the commercial viability of the process.

The achievement of deliverables confirms the progress made in the development of *Deinococcus* strains that are hyperproductive of carotenoids.

In accordance with the aid agreement signed in 2013, ADEME's acknowledgement of fulfilment of deliverables associated with the 2nd key milestone and 2nd decision-making milestone triggered the payment of approximately €1.5M of repayable advances.

Extension of the Carotenoid programme³

Crossing the 2nd key milestone of the DEINOCHEM programme followed a report on the project's progress in February 2016.

DEINOVE announced that it had increased the number of target molecules and now has five carotenoids produced at laboratory scale and yields improved by a factor of 6 to 8 depending on the molecule. The next steps of the programme are to:

- increase final yields and production volumes;
- develop carotenoid extraction and purification processes to obtain a marketable product;
- validate the functional benefit of the molecules produced; and
- continue regulatory proceedings for market authorisation.

The Company's aims to be able to sell the first batches of target compounds by 2018.

The DEINOPLAST programme (muconic acid) - winner of the 2nd edition of the Worldwide Innovation Challenge⁴

DEINOVE won the first phase of the 2nd edition of the Worldwide Innovation Challenge for its R&D programme DEINOPLAST (bio-based production of muconic acid) for which it obtained a grant of €200,000. The Worldwide Innovation Challenge was first launched by the French government in 2013 to provide an arena for the emergency of innovative projects in sectors that are strategic for France.

DEINOPLAST was selected under the "plant proteins and plant chemistry" category.

DEINOL: production of 2nd generation biofuels

Collaboration with ARBIOM⁵

During this half year, DEINOVE teamed up with ARBIOM, a bio-refinery company specialised in the transformation of non-food biomass for biotechnological applications, to test its DEINOL process on forest residues. The initial phase of the

² See Press Release of June 14, 2016

³ See Press Release of February 8, 2016

⁴ See Press Release of May 24, 2016

⁵ See Press Release of March 14, 2016

collaboration is to characterise the ARBIOM biomass (forestry residues pre-treated with phosphoric acid and hydrolysed) and the evaluation of *Deinococcus* potential for assimilating the sugars extracted from this biomass.

Metabolic engineering

DEINOVE partners with TOULOUSE WHITE BIOTECHNOLOGY to optimise the production of *Deinococcus*⁶

DEINOVE began a collaborative technological project with Toulouse White Biotechnology (TWB), a pre-industrial demonstrator in biotechnology based on renewable carbon.

The project, carried out in collaboration with the MetaToul platform (INSA-LISBP Toulouse and national infrastructure MetaboHUB) aims to map the metabolic fluxes of *Deinococcus*. This is to create an inventory of all the potential uses of the microorganism in the production of molecules of interest. This mapping, both qualitative and quantitative, will serve as a reference to identify and optimise all the metabolic pathways of the *Deinococcus* model to rapidly reach the target yields and productivity of industrial processes developed by the Company. DEINOVE bases its development on cutting-edge technology and this project aims to further enhance its metabolic engineering projects and accelerate on-going industrial programmes.

2.2.3 Intellectual Property

During the first half of 2016, DEINOVE increased its intellectual property portfolio with 11 new patent grants:

- PF2 "Use of bacteria for the production of bio-energy" granted in Canada and China (already granted in the United States, Europe, Eurasia, Ukraine, Australia and South Africa);
- PF4 "Compositions and methods for degrading biomass" in Eurasia, Japan and Australia (already granted in the United States, China and South Africa);
- PF5 "High performance metabolic bacteria" in China and Australia (already granted in the United States, Japan and South Africa);
- PF6 "Recombinant bacteria and uses thereof for the production of ethanol" granted in Australia and the Eurasia area (already granted in the United States, China, Japan, Ukraine and South Africa);
- PF7 "Bacteria and uses thereof" which refers to the metabolic diversity of *Deinococcus* and protects the production of compounds of interest (proteins, enzymes, medication, etc.), granted in the United States;
- PF8 "Enzymes and uses thereof" in the United States (already granted in South Africa).

DEINOVE's patent portfolio has 21 patent families protecting its technology platforms, the development of selection methods for a wide variety of *Deinococcus* and related bacteria, their use in production process for various biosourced products of interest and their industrial applications.

2.2.4 Financial elements

- During its meeting of 28 June 2016, the Board of Directors approved the reactivation of the 2nd tranche of the €3.6M equity line funding issued on 19 May 2015, by amendment to the agreement initially signed on 1st December 2014 between the Company and Kepler Cheuvreux.
- As indicated in 2.2.1 above, the share capital has been increased on several occasions since the beginning of the first half-year.
- On 8 January 2016, Bpifrance notified the Company of a €224K loan write-off under the DEINOPHARM programme following DEINOVE's acknowledgement of failure sent in October 2015. The write-off sum corresponds to the residual balances of advances outstanding received and not repaid.
- On 10 March 2016, DEINOVE, winner of the Worldwide Innovation Challenge for the DEINOPLAST programme under the "plant proteins and plant chemistry" category, received €140K in grants (out of total €200K) from Bpifrance.
- As indicated in 2.2.1 above, DEINOVE subscribed, on 4 May 2016, 500,000 bonds referred to as "O-2016", with a nominal value of €1.00, representing a total subscription of €500,000.

⁶ See Press Release of May 9, 2016

- On 20 June 2016, DEINOVE received €1,477K as a repayable loan following ADEME's validation of its DEINOCHEM programme's 2nd key milestone.
- On 27 June 2016, the Company collected €1,641K under the 2015 R&D Tax Credit (CIR) (see Note 10).
- 4 July 2016: report on liquidity agreement entrusted to Kepler Cheuvreux by the Company. Under the liquidity agreement entrusted to Kepler Cheuvreux by the Company, the following assets appeared on the liquidity account as at 30 June 2016:
 - 12,203 DEINOVE shares;
 - €23,228.10.

2.2.5 Post-closure: strategic focusing

At its meeting of 27 September 2016, DEINOVE's Board of Directors validated the refocusing of the Company's activities towards health, nutrition and cosmetic applications with the objective to accelerate revenue generation and focus on higher value-added resources.

This decision draws on the following elements:

- Satisfactory progress on the R&D animal nutrition programmes run with AVRIL and Flint Hills Resources that can expect to generate commercial revenue in the relatively short term.
- Studies carried out for the potential applications of carotenoids validate the interest these molecules have for cosmetic and health applications, both high value-added markets in which DEINOVE can project various revenue models either through selling licences or by directly producing compounds with partners without having to make heavy industrial investments.
- Progress made by DEINOBIOTICS, of which DEINOVE currently holds 49% (N.B. DEINOVE subscribed bonds issued by DEINOBIOTICS for a total €500,000 on 4 May 2016), and notably the identification of a candidate drug with a particularly interesting antibiotic activity selected for advanced preclinical studies. To optimise this development and those of DEINOVE, the Board of Directors felt it would be more effective to maximise synergies and regroup these two activities, which will now be essentially carried out at DEINOVE's offices in Grabels.
- Current developments only use a fraction of DEINOVE's strain bank, which is a high potential strategic asset that could be a new source of natural ingredients (in addition to the innovative carotenoid naturally produced by 400 of the 6,000 strains in the bank).
- The current global economic environment is unfavourable to the development of 2nd generation biofuels. The continued lull in oil prices weighs heavily on biofuel producers' competitive position and puts even more pressure on all areas of research. The various 2G fuel ethanol plants in operation are struggling to deliver on yield and production level forecasts, various technological hurdles persist, and market players are reluctant to develop new technologies as long as current plants remain unstable.
A Raymond James & Associates analyst Pavel Molchanov, specialised in cleantech energy in the United States, commenting the sector last June stated: "The scale-up of 2nd generation biofuel technologies has fallen well short of expectations. Numerous operational and mechanical incidents are occurring as a result of the near total absence of production of this type of biofuel."
- Several biotech industry players announced last month that they will refocus on speciality compounds, particularly in the fields of nutrition and personal care (cosmetics and beauty products) in face of lower oil prices and difficulties in financing their biofuel projects. This is, for instance, the case for Solazyme/Terravia, but also for Codexis and Amyris. At the same time, the main chemical industry actors initiated concentration measures, such as the DuPont and Dow Chemical merger.
- Despite progress made on the DEINOL programme, the prospect of quickly generating income from this activity does not seem realistic at this stage. ABENGOA, the DEINOL programme's main industry partner, began pre-bankruptcy procedures in November 2015. Since then, the Spanish group has decided to focus on its "engineering and industrial construction" lines of business and began a vast divestiture programme to lighten its debt and finalise an agreement with its creditors. ABENGOA sold its American biofuel plants⁷ (its main 2nd generation plant in Kansas was closed in

⁷ www.ethanolproducer.com/articles/12988/abengoa-announces-plan-to-sell-first-generation-biofuel-assets

December 2015⁸) and is looking for buyers for its European sites. Under these circumstances, the DEINOL programme must be suspended.

- DEINOVE's technological breakthroughs made in particular under the DEINOL programme can be put to full use for other research programmes, including new programmes: namely in genetic and metabolic engineering of bacterial strains used for specific applications, automated strain production platform, fermentation platform, analytical department, etc.

Consequently, the Board of Directors decided to make the following changes:

- reintegrate DEINOBOTICS' operations within DEINOVE: part of DEINOVE's resources will be reallocated to the development of DEINOBOTICS' programmes, which in return will share its know-how in the production, categorisation and optimisation of secondary metabolites with DEINOVE.
 - In legal terms and subject in particular to (i) the signing of the contribution plan and (ii) approval of the contributions in kind and decision of the subsequent capital raise by DEINOVE's Combined General Meeting to be held in the next few months, DEINOVE will hold 100% of its DEINOBOTICS subsidiary, following DEINOBOTICS SAS' shareholders contributions in kind of their shares in favour of DEINOVE.
- DEINOVE's launch of a vast programme to screen its strain library should result in the identification of speciality compounds in the fields of health, nutrition and cosmetics. This programme is currently in an *in vitro* screening phase to identify positive hits that will be sent on for more efficacy testing to validate their interest for these sectors.
- DEINOVE's other resources will be allocated in priority to continuing the development of carotenoids, programmes developed with AVRIL, Flint Hills Resources and other more upstream programmes with partners that have not yet been made public. All efforts will be focused on reaching these programmes' objectives and generating revenue as soon as possible. The development of other speciality compounds will benefit from the incredible biodiversity that is unique to DEINOVE. Speciality compounds are characterized according to the shortest development period and highest potential profit margins.
- The DEINOL programme has been suspended, along with its associated partnerships (ABENGOA, SUEZ, MBI, TYTON, et ARBIOM). DEINOVE will continue to examine all avenues for creating value from the assets in this DEINOL programme.
- Reorganisation of DEINOVE:
 - Dominique Le Bellier and his team will report directly to DEINOVE;
 - a preclinical study project manager will join the antibiotic development team;
 - the teams previously assigned to the DEINOL project and the Biomass platform will join the DEINOBOTICS, screening, fermentation and analytics teams;
 - the number of DEINOVE employees after DEINOBOTICS has been integrated will remain relatively close to the current set-up.

DEINOVE will now concentrate its research on high value-added applications in the following fields:

- health, by looking for molecules with antimicrobial properties that can lead to the development of new antibiotics or antifungals, and by exploiting the therapeutic properties of other compounds such as carotenoids that could be of interest for inflammation, ocular health, skin disorders, etc.;
- human and animal food, with molecules that have colouring, antioxidant and nutritive properties;
- cosmetics and beauty products, with molecules that are antioxidant and anti-aging, texturizing agents, etc.

DEINOVE's ambition is to become a leading biotechnology company that, by exploiting its biological heritage and technological platform, provides radical innovation in the areas of health, nutrition and cosmetics.

2 | 3 Financial position and results: some comments on the figures

The financial statement for DEINOVE S.A. at 30 June 2016 essentially reflects:

- Continued high expenditure on R&D, amounting to 78% of operating costs, as against 77% for the 1st six months 2015. The expenditure is mainly due to continuance of the Company's two main projects, namely DEINOCHEM (green

⁸ www.biofuelsdigest.com/bdigest/2015/12/03/abengoa-shuts-down-hugoton-colwich-st-louis-hq/

chemistry) and DEINOL (bio-ethanol). Resources were also dedicated to emerging projects. The result is an increase of +8% in R&D expenditure between the 1st six months of 2015 and 2016. The main causes are both the increase in R&D staff between the two periods (+3 FTE on average) and an increase in external expenditures, whether R&D work farmed out to private service providers and public research organisations or in costs directly linked to the operation of the technological platforms (which grow in proportion to numbers of laboratory staff).

- An exceptional positive result on non-recurring items of +€236K mainly due to the write-off of Bpifrance's €244K debt, and a small positive financial result of +€15K.
- Maintaining the financial resources available on the asset side of the accounts made it possible to envisage financing the current projects beyond the 1st quarter of 2018. The Company's Net Financial Position at the end of June 2016 amounted to +€10,359K as compared with +€12,432K at 31/12/15. It should be noted that the cash position at 30/06/16 does not include €500K paid by DEINOVE to subscribe, at the beginning of May 2016, to "O-2016" bonds issued by DEINOBOTICS (as indicated in section 2.2.1 above).

The following table covers the key items of the half-yearly results, drawn up in accordance with French accounting standards, for the 1st six months of the financial years 2015 and 2016, together with certain financial items from the balance sheet at 30 June 2016 compared with balances at 31 December 2015:

(in thousands of Euros)	6 month period ending June 30	
	2016	2015
Total operating revenues	208	69
Total operating costs	4,344	4,059
<i>of which R&D costs</i>	3,402	3,141
<i>of which administrative and general costs</i>	942	918
Operating profit/loss	-4,136	-3,990
Financial result	15	12
Current pre-tax profit/loss	-4,121	-3,978
Profit/loss from non-recurring items	236	-7
Income tax (R&D Tax Credit)	-745	-816
NET PROFIT/LOSS	-3,141	-3,170

	at 30/06/16	at 31/12/15
Net financial position	10,359	12,432
<i>of which financial investments¹</i>	0	0
<i>of which marketable securities (maturity <1 year)</i>	0	0
<i>of which cash instruments (maturity <3 months)</i>	0	0
<i>of which cash on hand</i>	10,359	12,432
<i>(of which financial debt)</i>	0	0
Total assets	14,416	17,327
TOTAL SHAREHOLDERS' EQUITY	12,669	14,593
<i>of which equity capital</i>	4,919	8,096
<i>of which conditional advances</i>	7,750	6,497

¹ Excluding loans, liquidity agreement items (cash and treasury shares), deposits and guarantees.

Presentation of Results at 30/06/2016:

Operating revenues:

Operating revenues for the first half of 2016, amounting to €208K, are made up as follows:

- €140K in grants from the Worldwide Innovation Challenge (Bpifrance, 70% of total grants);
- €15K in other grants (two CIFRE contracts + hiring subsidy);
- €21K in invoices as part of collaborations with AVRIL and FHR (Flint Hills Resources) ;
- €32K in other income of which €27K in transfers of operating charges.

Net operating costs by type:

(in thousands of Euros)	6 month period ending June 30	
	2016	2015
Purchases of raw materials and other supplies	0	0
Other purchases and external expenses		
External studies, subcontracting and scientific consultancy	519	800
Supplies	392	327
Rents, maintenance and servicing costs	624	194
Miscellaneous costs	87	81
Documentation, technological monitoring and seminars	27	11
Fees	375	517
Travelling expenses	119	99
Total for Other purchases and external expenses	2,143	2,029
Taxes, duties and similar levies	39	38
Salaries and wages	1,175	1,111
Social contributions	546	485
Depreciation charges on fixed assets	355	309
Other expenses	87	87
TOTAL OPERATING COSTS	4,344	4,059

The net difference in *Operating costs* between the first half-years of 2015 and 2016 amounts to +€285K, i.e., +7%. The difference is essentially due to increases:

- of +€114K, i.e. +6%, under *Other purchases and external expenses* (€2,143K against €2,029K); and
- of +€171K, i.e. +8%, in *Other costs* (€2,201K against €2,030K), largely consisting of staff costs and depreciation charges.

The difference of +€114K in *Other purchases and external expenses* is largely linked to four headings; it should be noted that the three largest variations (i to iii) nearly offset each other, with a net difference of +€8K.

Rents, maintenance and servicing costs increased significantly, up (i) +€430K, of which +€297 from financial leases set up at year-end 2015 to fund the acquisition of two scientific pieces of equipment, and +€111K for Cap Sigma's premises: rent increase of +€73K (436 sq.m. extension on the 2nd floor delivered in 10/2015, annual indexation) and expenses of +€38K (extension, increase of provision/sq.m., misc. adjustments). In addition, the fall of (ii) -€280K in *External studies, subcontracting and scientific consultancy* is essentially due to a variation of -€371K in the subcontracting of R&D work to VTT (DEINOCHEM programme) and ABENGOA (DEINOL), partially offset by an increase of +€85K in scientific consultancy costs. Finally, *Fees* (excluding scientific consultancy) fell (iii) -€142K, of which -€88K in patent expenses, -€31K in legal fees and -€18K in recruitments.

The smallest variations are in *Supplies*, up +€64K, of which +€51K in chemical products and other laboratory consumables, as well as *Travelling expenses*, +€19K (of which €13K in VTT re invoicing) and finally, +€22K in *Documentation, technological monitoring and seminars* and *Miscellaneous costs*.

The +€171K difference in *Miscellaneous costs* comes in part from *Salaries and wages* and *Social contributions*, up +€124K (+3.3 FTE on average). This can also be explained by the changes in *Depreciation charges on fixed assets*, up +€47K, a mechanic consequence of investments in scientific equipment made in the course of the previous year (now amortised over a full half-year) and in the first half-year 2016. Finally, *Other expenses* and *Taxes, duties and similar levies* did not change from the first half-year 2015.

Over the past half-year, R&D expenditure, essentially covering the costs of staff allocated to these tasks, the costs of subcontracting, consultancy and scientific collaboration, costs associated with protection of the Company's intellectual property and finally the costs of equipment and of operating the Cap Sigma laboratory (Montpellier) represents 78% of operating costs (against 77% over first half-year 2015).

Financial result:

(in thousands of Euros)	6 month period ending June 30	
	2016	2015
Financial revenue	53	50
Financial costs	38	38
FINANCIAL RESULT	15	12

The increase of +€3K under Financial result between the two half-years is explained by the following variations:

- net profit/loss on FX operations: +€6K;
- interest to be received from DEINOBIOTICS SAS (related to the €500K loan): +€5K
- operations made under the liquidity agreement (net, including provision for depreciation): +€2K;
- financial revenues from investments on a fixed-term account (Société Générale): -€9K.

Net result:

(in thousands of Euros)	6 month period ending June 30	
	2016	2015
Current pre-tax profit/loss	-4,121	-3,978
<i>Revenue from non-recurring items</i>	239	0
<i>Expenses from non-recurring items</i>	3	7
Extraordinary profit/loss	236	-7
Tax on profit (R&D Tax Credit)	-745	-816
PROFIT OR LOSS	-3,141	-3,170

The change in the Extraordinary Profit/Loss of +€243K can be explained as follows:

- The recording over the first half-year 2016 of a total of €224K under *Revenue from non-recurring items* related to the DEINOPHARM programme: following the 2nd acknowledgement of failure sent to Bpifrance in 10/2015, a notification was received in 01/2016 stating the write-off of debt for this amount;
- The recording of another €10K under *Revenue from non-recurring items* following the liquidation of a company in which DEINOVE held a €12K debt (including taxes);
- The full reversal of a €5K provision for Risks & Charges applied to the second half-year 2014;

- The recording of €3K under *Expenses from non-recurring items*. This is a provision for *Risks and charges* relating to a technical tax point for which the charge was €7K in the first year-half 2015.

With regard to the negative change of -€71K under *Tax on profit*, it was almost entirely due to the change in sums relating to the R&D tax credit (CIR), a scheme for which the Company has been eligible since 2008.

Under this item, the net difference between the first half-years of 2015 and 2016 amounted to -€63K, explained as follows:

- The CIR tax credit for the first half-year 2016 is noticeably lower than that for the 1st six months of 2015, the respective amounts being €744K against €825K, i.e. a negative change of -€81K.
- With respect to CIR 2014, an adjustment of -€17K was reported under the first half year 2015, the sum of the tax credit having been reviewed downwards (from €1,594K to €1,577K) following correspondence with the tax authority subsequently to the application for restitution. For the CIR 2015, received end of June 2016, an adjustment of +€1K was reported under the first half-year 2016: the sum of the tax credit provisions at the end of 2015, namely €1,640.8K, having been reviewed to €1,641.4K at the time the 2069-A form was sent to the tax authorities, which validated the request for full restitution. Hence there was a change of +€18K between the 1st six months of 2015 and 2016.

The residual change (excluding CIR) of -€8K under “Tax on profit” is a consequence of the absence of the provision regarding the CIPC (Business Prospection Tax Credit) during the first half-year 2016 as the Company is no longer eligible for this CIPC.

Presentation of the balance sheet at 30/06/2016:

At the end of the first half-year 2016, the Company's Net Financial Position amounted to +€10,359K, a sum which provides a measure of the resources available at this date for covering the requirements of its R&D projects. This financial position can be compared with the position at 31/12/2015 amounting to +€12,432K, namely a net consumption of €2,073K. The financing of operating costs for the first half of 2016 required €3,989K (excluding provisions for depreciation charges for amortisation), as well as laboratory equipment investments (including rental payments) for approximately €720K. In addition, DEINOVE made a €500K loan to DEINOBIOTICS SAS through the subscription of bonds (see 2.1.1 above). For the same period, the Company received €1,477K in repayable advance (3rd payment by ADEME as part of the DEINOCHEM programme), and €140K in grants (Bpifrance/CMI). Late June 2016, DEINOVE also received the restitution of the 2015 CIR loan for a total €1,641K.

Out of the total €10,359K of available cash, €7,700K is placed on fixed-term accounts with Société Générale.

Liquidity agreement

Under the liquidity agreement entrusted to Kepler Cheuvreux by the Company, the following assets appeared on the liquidity account as at 30 June 2016:

- 12,203 DEINOVE shares;
- €23,228.10.

Share capital

On 30 June 2015, the share capital was made up of 8,580,547 ordinary shares with a nominal value of €0.40 following the issuance of 25,640 new shares over the course of the 1st six months 2016, resulting from the exercise of (i) 20,540 share warrants known as “BSA-B”, of (ii) 5,100 Employee Stock options known as “BCE-2009-1”, having led to acknowledgement of a capital increase of €10,256 by the issuance of 25,640 new shares, at €0.40 nominal value each. Note 6 to the Appendix to the half-year accounts provides additional details on Equity and dilutive financial instruments outstanding.

2 | 4 Main risk factors

On the occasion of its IPO on Alternext in April 2010, DEINOVE presented the risk factors that could potentially have an impact in the Basic Document registered with the French Financial Markets Authority (AMF) on 25 March 2010, under number I.10-014 and which is available on its website.

More recently, a number of risk factors have been updated in the Reference Documents registered on 23 June 2014 by the AMF under number R.14-042 and 26 November 2015 under number R.15-081. These documents are available on the Company website at www.deinove.com.

The Company reminds readers that, as stated in the Reference Documents mentioned above, its activities are essentially based on Research & Development operations in biotechnology, whose aims are applications in the fields of biofuels, green chemistry and antibiotics. The success of the projects undertaken is therefore subject to the technological and scientific uncertainties typical of this sector of activity, and is also subject to ability to industrialise the bio-procedures developed in an economically viable fashion.

3 | HALF-YEAR ACCOUNT SUMMARY AS OF 30 JUNE 2016

3 | 1 Profit and Loss Account

(in thousands of Euros)	Note	1 st six months 2016	1 st six months 2015	Financial year 2015
Operating revenue		208	69	492
Sales of goods				
Purchases of raw materials and other supplies		0	0	0
Other purchases and external expenses		2,143	2,029	4,371
Taxes, duties and similar levies		39	38	72
Salaries and wages		1,175	1,111	2,211
Social contributions		546	485	1,019
Depreciation charges for amortisations, write-backs and provisions		355	309	634
Other expenses		87	87	150
Total operating expenses		4,344	4,059	8,457
OPERATING PROFIT/LOSS		-4,136	-3,990	-7,965
Financial revenue		53	50	67
Financial costs		38	38	81
FINANCIAL RESULT		15	12	-14
CURRENT PRE-TAX PROFIT/LOSS		-4,121	-3,978	-7,979
Revenue from non-recurring items		239	0	0
Expenses from non-recurring items		3	7	10
PROFIT/LOSS FROM NON RECURRING ITEMS		236	-7	-10
Tax on profit (R&D Tax Credit)	10	-745	-816	-1,633
PROFIT OR LOSS		-3,141	-3,170	-6,356

3 | 2 Balance sheet

Assets

(in thousands of Euros)	Note	30/06/16	31/12/15
FIXED ASSETS	3		
Intangible assets			
Concessions, patents, licences, software, rights and the like		223	117
Tangible assets			
Technical facilities, industrial equipment and tooling		696	806
Tangible assets under construction		103	150
Other tangible assets		95	99
Financial assets			
Equity interest and related receivables		631	631
Other equity investments	3	0	0
Loans		500	0
Other financial assets		156	165
TOTAL		2,404	1,968
CURRENT ASSETS			
Receivables	4	1,151	2,197
Advances and prepayments on orders	5	2	196
Investment securities (Term account)		7,700	500
Cash instruments		0	0
Cash on hand	5	2,659	11,932
Pre-paid expenses (+ conversion rate adjustments)		500	534
TOTAL		12,012	15,359
GRAND TOTAL		14,416	17,327

Liabilities

(in thousands of Euros)	Note	30/06/16	31/12/15
EQUITY	6		
Capital		3,432	3,422
Share, merger and contribution premiums		28,370	28,416
Statutory reserves		0	0
Carry-forward		-23,742	-17,386
Profit or loss for the period		-3,141	-6,356
TOTAL		4,919	8,096
OTHER EQUITY			
Conditional advances	7	7,750	6,497
TOTAL		7,750	6,497
PROVISIONS			
Provisions for risks & liabilities		13	15
TOTAL		13	15
LIABILITIES	8		
Loans and financial liabilities - Others		0	0
Suppliers and related accounts		882	1,677
Outstanding taxes and social contributions		744	925
Debts on fixed assets and related accounts		100	110
Other liabilities (+ conversion rate adjustments)		7	7
Deferred revenue		1	0
TOTAL		1,734	2,719
GRAND TOTAL		14,416	17,327

3 | 3 Table of Changes in Equity

(in thousands of Euros)	Share capital	Issue premium & BAS (share warrants)	Reserves & Carry-forward	Profit/loss for the period	Total shareholders' proceeds
Balance at 01/01/15	2,184	15,397	-10,927	-6,458	196
Allocation of 2014 surplus			-6,458	6,458	0
Capital increase	1,238				1,238
Exercise of BSA/BCE & IP		13,019			13,019
Profit/loss for 2015				-6,356	-6,356
31/12/15	3,422	28,416	-17,386	-6,356	8,096
Allocation of 2015 surplus			-6,356	6,356	0
Capital increase	10				10
Exercise of BSA/BCE & IP		-46			-46
Half-year result for 2016				-3,141	-3,141
30/06/16	3,432	28,370	-23,742	-3,141	4,919

3 | 4 Net cash flow table

(in thousands of Euros)	Note	1 st six months 2016	2015
Cash flow related to operating activities			
Profit/loss for the period		-3,141	-6,356
Capital gain on transfer of treasury shares		34	17
Profit/loss from non-recurring items		-236	10
Amortization		355	634
Depreciation		-26	22
Changes in accrued interest		-4	67
Changes in working capital		302	-737
Net cash used in activities		-2,716	-6,345
Cash flow related to investment activities			
Acquisitions net of divestures of fixed assets	3	-299	-289
Acquisitions of fixed assets (CAT, Liquidity agreement, participations)	3	-651	-1,523
Redemption of investments at maturity	3	0	1,250
Sales of financial assets	3	153	919
Net cash from/(absorbed by) investment activities		-798	356
Cash flow related to financing activities			
Net income from share issuance	6	-36	14,257
Receipt from new loans	7	1,477	1,998
Loan repayment	7	0	-50
Net cash from financing activities		1,440	16,204
Change in cash and cash equivalents		-2,073	10,216
Cash and cash equivalents opening balance		12,432	2,216
CASH AND CASH EQUIVALENTS AT CLOSING		10,359	12,432

3 | 5 Appendix to the Accounts

NOTE 1 | THE COMPANY

DEINOVE SA (“the Company”) is a green technology company dedicated to the development and commercial operation of bioprocesses for the production of biofuels and bio-sourced chemical compounds of industrial interest, based on exploiting a currently neglected group of bacteria with exceptional natural properties: the *Deinococci*.

The Company was set up in 2006 in the form of a *Société par Actions Simplifiée* [simplified joint stock company] and was transformed into a *Société Anonyme* [joint stock company] on 27 January 2010.

The Company has been listed on the Alternext market since April 2010. Alternext is an organised market in which there is no obligation to apply IFRS standards. The accounting principles applied are therefore the accounting principles generally accepted in France.

NOTE 2 | ACCOUNTING PRINCIPLES, REGULATIONS AND METHODS

The accounting principles and methods used in drawing up the half-yearly accounts comply with French accounting standards and are the same as those used in the preparation of the Annual Accounts for the financial year 2015 and as described in the appendix to these accounts. The operations taking place during the half year and which require additional information are as follows:

- **Impact of share warrants (BSA) and Employee Stock options (BCE):**

During the period, holders of BSAs (*Bons de Souscription d’Actions*) or BCEs (*Bons de Souscription de Parts de Créateur d’Entreprise*) exercised these financial instruments. An increase in capital resulting from the exercise of BSA/BCE is registered as Equity on the effective realisation date of the operation, as defined by Article L.225-149 subparagraph 2 of the French Commercial Code. Consequently, the exercise of warrants is reported under Issue Premiums without waiting for later action from the Board of Directors as stipulated in subparagraph 3 of the same Article, whose sole purpose is to record in legal form the operation already effectively carried out by updating of the articles of association.

It should be noted that the Combined Annual General Meeting on 3 May 2012 decided that the number of BSA and BCE issued by the Company up to that date should be divided by 10. Consequently, since 3 May 2012, each BSA or BCE gives right to an entitlement subscribe to 1 new share.

Note 6 states that during the first half-year 2016 the Board of Directors reported the exercise of 20,540 “BSA-B” and 5,100 “BCE-2009-1”, leading to the issue of 25,640 new shares at €0.40 nominal value each.

It should also be noted that during its meeting of 28 June 2016, the Board of Directors approved the reactivation of the 2nd tranche of €3.6M of the equity line funding issued on 19 May 2015⁹, by amendment to the agreement initially signed on 1st December 2014 between the Company and Kepler Cheuvreux.

- **Liquidity agreement and Treasury Shares (Other financial assets):**

Transactions related to the Liquidity Agreement concluded by the Company with a financial intermediary are recorded pursuant to recommendation 98-D released by the Urgent Issues Task Force of the French National Accounting Board (*Comité d’Urgence du Conseil National de la Comptabilité*) and to the French National Auditing Body Bulletin No. 137, dated March 2005:

- treasury shares held are recorded in Other Financial Assets – Treasury Shares. A provision for write-back is recorded by reference to the average listed stock-market price from the month preceding closing if the latter is less than the acquisition price. To determine the profit/loss from the sale, the FIFO method is applied;
- cash paid to the intermediary and not yet used is recorded under Other Financial Assets – Other Long-term Receivables.

⁹ See Press Release of June 15, 2015

Under the liquidity agreement entrusted to Kepler Cheuvreux by the Company, the following assets appeared on the liquidity account as at 30 June 2016:

- 12,203 DEINOVE shares;
- €23,228.10.

NOTE 3 | INTANGIBLE, TANGIBLE AND FINANCIAL ASSETS

GROSS VALUES (in thousands of Euros)	Gross value at 01/01/16	Acquisitions	Reductions	Gross value at 30/06/16
Intangible assets				
Concessions, patents, licences, software, rights and the like	371	176	0	547
Other intangible assets				
TOTAL	371	176	0	547
Tangible assets				
Technical facilities, industrial equipment and tooling	2,660	157	1	2,817
General facilities, fixtures and various amenities	69	5	0	74
Office equipment and computer hardware, furniture	146	10	1	155
Tangible assets under construction	150	42	89	103
TOTAL	3,026	214	91	3,149
Financial assets				
Equity interest and related receivables	631	0	0	631
Other equity investments	0	0	0	0
Loans	0	500	0	500
Other financial assets	192	151	187	156
TOTAL	823	651	187	1,288
GRAND TOTAL	4,220	1,041	278	4,983

DEPRECIATIONS (in thousands of Euros)	POSITION AND MOVEMENTS DURING THE PERIOD			
Depreciable fixed assets	Value at 01/01/16	Allocations	Outflows	Value at 30/06/16
Intangible assets				
Concessions, patents, licences, software, rights and the like	254	70	0	324
Other intangible assets				
TOTAL	254	70	0	324
Tangible assets				
Technical facilities, industrial equipment and tooling	1,854	267	1	2,121
General facilities, fixtures and various amenities	13	4	0	16
Office equipment and computer hardware, furniture	104	14	1	118
TOTAL	1,971	285	1	2,255
GRAND TOTAL	2,225	355	1	2,579

IMPAIRMENTS ((in thousands of Euros)	POSITION AND MOVEMENTS DURING THE PERIOD			
Financial assets	Value at 01/01/16	Allocations	Outflows	Value at 30/06/16
Financial assets				
Long-term securities (bonds)	0	0	0	0
TOTAL	0	0	0	0
Other financial assets				
Liquidity agreement	27	0	26	0
TOTAL	27	0	26	0
OVERALL TOTAL	27	0	26	0

Other financial assets included under assets at 30th June 2016 comprised:

- the available balance of the liquidity agreement totalling €23K;
- 12,203 treasury shares, recorded for a gross value of €42K. Since the market value of these shares, determined on the basis of the closing price of the Company share at 30/06/16, was marginally lower than the acquisition value, a provision for impairment of €0.3K was recorded at 30/06/16;
- deposit and sureties amounting to a total of €91K, relating exclusively to the Cap Sigma (Grabels) premises.

The result is a net sum of €156K at 30/06/16.

Under the heading of **Equity interests and related receivables**, it should be noted that during financial year 2015 and since the current accounting period, DEINOVE has not created any new subsidiaries or made any new investments.

At 30 June 2016 DEINOVE held the following Equity interests:

1. DEINOBIOTICS is a simplified joint-stock company (*société par actions simplifiée*), with a registered capital of €941,500, headquartered at Cap Sigma – ZAC Euromédecine II, 1682 rue de la Valsière – 34790 Grabels incorporated with the Montpellier Trade and Companies Register under number 752 226 746 RCS Montpellier. The Company holds 49% of the shares.

The purpose of DEINOBIOTICS is to implement research, development, production and commercialization activities in France and abroad of products, technology and services in the field of infectious diseases.

At 31st December 2015, DEINOBIOTICS' Annual Accounts showed:

- a loss of €861K;
- equity deficit of €1,266K;
- a balance-sheet total of €887K.

2. Lastly, it should be noted that in November 2012, the Company took a stake in the company share capital of **CARBIOS**, a simplified joint-stock company (*société par actions simplifiée*), with a registered capital of €2,658,721.10, headquartered at Biopôle Clermont-Limagne, rue Emile Duclaux, 63360 Saint-Beauzire, incorporated with the Clermont-Ferrand Trade and Companies Register under number 531 530 228 RCS Clermont-Ferrand.

The purpose of Carbios is, in particular, to implement research, development, production and commercialization activities in France and abroad in biotechnologies and in particular into biomass transformation and bioremediation technologies, processes and products, as well as carrying out any activity in the field of green chemistry and in particular in the fields of technologies, procedures and products in the field of green technology.

All the shares making up CARBIOS' capital may be traded on the Alternext market in Paris as of 19 December 2013.

At 31st December 2015, CARBIOS' Annual Accounts showed:

- a loss of €3,071K;
- equity of +€8,125K;
- a balance-sheet total of €12,042K.

At 31st December 2015, the Company held 2.01% of the CARBIOS share capital.

At 30 June 2016, the Company held 1.99% of the CARBIOS share capital.

On the DEINOVE balance sheet at 30/06/16, the total of €631.5K for these various Interests is broken down as follows:

- DEINOBIOTICS SAS: €461.5K;
- CARBIOS SA: €170.0K.

No provisions for impairment having been applied, the Net total is equivalent to the Gross total.

Regarding the 2nd shareholding, it should be noted that on the basis of the stock exchange price for CARBIOS on 30/06/16, namely, €10.28, fair value is €776.7K. However, since the Company accounts were drawn up in compliance with French accounting standards, this asset on the balance sheet appears as valued according to historic (acquisition) cost.

NOTE 4 | Receivables

Half-year ended 30 June 2016

(in thousands of Euros)	Gross amount	Within a year	Over a year
From fixed assets			
Loans & Other financial assets (net)	656	0	656
Total fixed assets	656	0	656
From current assets			
Customers and related accounts	80	80	0
Trade receivables	0	0	0
Staff and social organisations	4	4	0
Tax on profit	829	829	0
Value added tax	223	223	0
Other taxes, duties and similar levies			
Other receivables	17	17	0
Group and associates			
Total current assets	1,151	1,151	0
TOTAL	1,807	1,151	656

Financial year ended 31 December 2015

(in thousands of Euros)	Gross amount	Within a year	Over a year
From fixed assets			
Loans & Other financial assets (net)	165	1	164
Total fixed assets	165	1	164
From current assets			
Customers and related accounts	56	56	0
Trade receivables	0	0	0
Staff and social organisations	1	1	0
Tax on profit	1,702	1,702	0
Value added tax	416	416	0
Other taxes, duties and similar levies			
Other receivables	22	22	0
Group and associates			
Total current assets	2,197	2,197	0
TOTAL	2,362	2,198	164

Receivables from Company tax relate almost entirely to the Research Tax Credit (CIR) due to the Company. As there is no taxable profit and since the Company fulfils the criteria for SMEs as defined under EC regulation, this receivable is repayable the year following the year it is recognised. The balance of IS Receivables, amounting to €829K at 30 June 2016 is broken down as follows:

- estimated R&D Tax Credit (CIR) for the first-half 2016: €744K
- Tax Credit for Competitiveness and Employment (CICE): total of €77K (of which €54K for financial year 2015);
- Tax Credit for Business Prospection Tax Credit (CIPC) and Apprenticeship Credit: total amounting to €8K (for financial year 2015).

NOTE 5 | CASH INSTRUMENTS

This item comprises liquidity on deposit accounts with Société Générale and Interaudi Bank (United States), as well as cash balances. At the end of June 2016, the Company held €2,655K in deposit accounts, to which can be added €4K in accrued interest receivable, relating to several Société Générale term deposits for a sum of €7,700K, recognised under Investment Securities. Cash on hand at 30/06/16 therefore amounts to +€10,359K.

It should be noted that DEINOVE, in June 2015, ordered a set of fermentation vessels from the supplier Pierre Guerin, for a total sum of €980K. Confirmation of this order was accompanied by two pre-payments of €294K and €196K respectively.

This large investment was financed by a financial lease set up to provide for the payment of this deposit by Sogelease, a banking institution. The sum initially advanced by DEINOVE on confirmation of the order was therefore returned at the beginning of August 2015. For the 2nd pre-payment, as had been agreed between DEINOVE and Pierre Guérin, the restitution of the €196K took place in January 2016.

NOTE 6 | EQUITY

6.1 - Share Capital Structure:

The only capital operations carried out over the period result from the exercise of (i) 20,540 share warrants known as BSA-B, and of (ii) 5,100 Employee Stock options known as BCE-2009-1 which led to acknowledgement of a capital increase of €10,256 by the issuance of 25,640 new shares, at €0.40 nominal value each.

Summary:

	30/06/16	31/12/15
Capital	€3,432,218.80	€3,421,962.80
Number of shares	8,580,547	8,554,907
Nominal value	€0.40	€0.40

Analysis by share category:

Until 26 April 2010, the share capital was made up of ordinary shares (category B) and preference shares (category A). The preference shares gave bearers the right to benefit from pre-emption and approval to their benefit once category B ordinary shares were sold, as well as a right of preference in the liquidation surplus.

Since 26 April 2010, following cancellation of the various categories, the share capital is exclusively made up of ordinary shares.

6.2 - Share Capital Breakdown

Half-year ended 30 June 2016

The 8,580,547 shares at €0.40 nominal making up the capital on 30 June 2016 are broken down as follows:

At 30 th June 2016 - non-diluted basis				
Shareholders	Number of shares	Percentage held	Voting rights	Percentage
Truffle Capital-managed funds	2,828,215	32.96%	5,493,433	48.25%
Tereos EU	118,685	1.38%	118,685	1.04%
Scientific founders	20,000	0.23%	40,000	0.35%
Management and directors	66,180	0.77%	84,921	0.75%
Floating	5,547,467	64.65%	5,649,267	49.61%
TOTAL	8,580,547	100.00%	11,386,306	100.00%

At 31 st December 2015 - non-diluted				
Shareholders	Number of shares	Percentage held	Voting rights	Percentage
Truffle Capital-managed funds	2,828,215	33.06%	5,493,433	48.37%
Tereos EU	118,685	1.39%	118,685	1.05%
Scientific founders	20,000	0.23%	40,000	0.35%
Management and directors	62,848	0.73%	81,589	0.72%
Floating	5,525,159	64.58%	5,623,646	49.52%
TOTAL	8,554,907	100.00%	11,357,353	100.00%

6.3 - Dilutive Financial Instruments

- **Share warrant plans (BSA)**

The table below shows the status of BSA since the date of inception of the Company and not exercised at 30 June 2016, as well as additional information on their status on this date.

BSA	Issued	Cancelled	Exercised	Balance of exercisable warrants	Of which subscribed	Of which not allocated	Lapse
BSA-B	92,430	-	81,620	10,810	10,810	-	30/01/18
GM of 30/01/08							
BSA-2008	61,620	-	20,540	41,080	41,080	-	27/06/18
GM of 27/06/08							
BSA-2009	330,000	-	-	330,000	330,000	-	05/05/19
GM of 05/05/09							
BSA-2010-1	34,000	-	-	34,000	34,000	-	22/03/20
GM of 27/01/10							
BSA-2010-3	22,500	-	-	22,500	22,500	-	22/03/20
GM of 27/01/10							
BSA-2010-4	8,500	-	-	8,500	8,500	-	22/03/20
GM of 27/01/10							
BSA-2012-1*	123,240	41,080	-	82,160	82,160	-	16/02/22
GM of 24/09/10							
BSA-2013-1	10,100	-	-	10,100	10,100	-	04/07/23
GM of 13/05/13							
BSA-T1	500,000	-	500,000	0	0	-	30/06/15
GM of 06/05/14							
BSA-T2	600,000	-	280,000	320,000	320,000	-	31/12/16
GM of 06/05/14							
BSA-2015-1	20,000	-	-	20,000	20,000	-	22/09/25
GM of 06/05/15							
BSA-2015-2	20,000	-	-	20,000	20,000	-	22/09/25
GM of 06/05/15							
BSA-2016-1	25,000	-	-	25,000	25,000	-	22/03/26
GM of 06/05/15							
TOTAL BSA	1,847,390	41,080	882,160	924,150	924,150	0	

* Lapse of 20,540 shares acknowledged by the Board of Directors on 28 June 2016.

- **Employee Stock option plans (BSPCE)**

The table below shows the status of BSPCE since the date of inception of the Company and not exercised at 30 June 2016, as well as additional information on their status on this date. Details of the operations during the first half-year are provided as follows.

BSPCE	Issued	Cancelled	Exercised	Balance of exercisable warrants	Of which subscribed	Of which not allocated	Lapse
BCE 2008	61,630	-	61,630	0	0	-	30/01/18
GM of 30/01/08							
BCE 2009-1	68,000	32,832	35,168	0	0	-	10 years following attribution
GM of 05/05/09							
BCE 2009-2	25,370	-	25,370	0	0	-	05/05/19
GM of 05/05/09							
BCE 2010-1	37,320	6,630	2,820	27,870	27,870	-	22/03/20
GM of 27/01/10							
BCE-2010-2	43,500	26,604	3,896	13,000	13,000	-	02/12/20
GM of 24/09/10							
BCE-2011-1	22,400	9,400	-	13,000	13,000	-	28/06/21
GM of 24/09/10							
BCE-2012-1*	25,000	25,000	-	0	0	-	03/07/22
GM of 03/05/12							
BCE-2013-1*	152,780	152,780	-	0	0	-	07/01/23
GM of 03/05/12							
BCE-2013-2*	60,000	60,000	-	0	0	-	11/07/23
GM of 13/05/13							
BCE-2015-1	152,780	-	-	152,780	152,780	-	02/02/25
GM of 06/05/14							
BCE-2015-2	25,000	-	-	25,000	25,000	-	02/02/25
GM of 06/05/14							
BCE-2015-3**	60,000	60,000	-	0	0	-	02/02/25
GM of 06/05/14							
BCE-2015-4	10,000	-	-	10,000	10,000	-	02/02/25
GM of 06/05/14							
BCE-2015-5	50,000	-	-	50,000	50,000	-	10/11/25
GM of 06/05/15							
TOTAL BSPCE	793,780	373,246	128,884	291,650	291,650	0	

* Lapse acknowledged by the Board of Directors on 2 February 2015.

** Lapse acknowledged by the Board of Directors on 3 February 2016.

During the first half-year of 2016, acting on a delegation of authority agreed by the General Meeting of 6 May 2015, the Board of Directors on 22 March 2016 issued and allocated a 25,000 share warrant plan referred to as BSA-2016-1. This plan gives the right to subscribe 25,000 shares.

At its meeting of 28 June 2016, the Board of Directors acknowledged effective realisation of an increase in capital for an overall nominal amount of €10,256.00 through the issue of 25,640 new shares, made possible by the exercise of (i) 20,540 share warrants referred to as BSA-B and (ii) 5,100 Employee Stock options referred to as BCE-2009-1.

NOTE 7 | CONDITIONAL ADVANCES

This item comprises the advances granted by public bodies, and whose repayment is predominantly conditional on the success of the project concerned:

- (i) A €100K repayable advance was granted in 2009 by Oseo Île-de-France for the “DEINOL project feasibility study: composition of a strain bank, characterisation, selection and optimisation”. DEINOVE had received €50K in 2009 and the balance of €50K in 2010. As the feasibility study was highly successful, €5K were reimbursed in 2011 (in 1 instalment), €30K in 2012 (5 instalments), then €40K in 2013 (4 instalments) and finally €25K in 2014 (2 instalments). As provided for in the initial schedule, on the assumption of success, the entire sums received in the form of repayable advances have been repaid to the public financing body, Bpifrance.
- (ii) As regards another programme, the DEINOPHARM project, in 2009 Oseo Innovation and the Languedoc-Roussillon Region had granted a total of €400K repayable advances for the “extension and screening of a bacteria strain library; identification and characterisation of antibiotic molecules”. The 1st instalment of 40% took place in 2009, and an additional €160K was received by DEINOVE in 2010. As provided for in the rider to this financial aid agreement, concluded in November 2010, a 1st repayment of €25K was made at the end of December 2013. Concomitantly at the beginning of January 2014 and following processing by Bpifrance of the final expenses declaration (sent in 2011) the balance of the repayable advance amounting to €4K was paid to the Company. This payment was subject to a side letter clarifying the schedule of reimbursements in the event of success (€324K, i.e. 100% of the sums received) or failure (€49K, i.e. 15%). At the beginning of June 2014, Bpifrance notified the Company of a carry-over in the schedule in the context of the acknowledgement of a failure. For this reason, since a drawdown of €25K had taken place in 2014, the total reimbursed at the end of 2014, namely €50K, was slightly greater than the €49K provided for in such a case. Two new drawdowns of €25K were made subsequently, on 30 September and 31 December 2015 respectively, in line with the new repayment schedule dated 11 December 2014. In October 2015, at Bpifrance's request, the Company provided an update of the acknowledgement of failure initially submitted in May 2011, to determine the total amount owing to be repaid. By letter dated 8 January 2016, Bpifrance ruled there was an acknowledgement of technical failure and notified the Company of a €244K debt write-off, thus confirming the final reimbursement sum of €100K (i.e. 31%), which had been paid in full on 31/12/2015.
- (iii) The Company received an aid from the Oseo Innovation – ISI Programme for the DEINOL project comprising repayable advances, for a total amount of €4M, and €2M in grants, payments being staggered over 50 months between 2010 and 2014. This aid was conditional on the signing of a Consortium Agreement between DEINOVE and its project partners BENP-Lillebonne, the CNRS and INSA Transfert, which occurred on 30 March 2010. The grants were unblocked as and when the project advanced and as reports on finalisation of each key milestone were provided to Oseo, for which the main characteristics were initially as follows:
 - prior to 28/02/11 (key milestone 1): development of a wild or modified strain producing ethanol and endowed with hemicellulose or cellulo-lytic characteristics similar to benchmark micro-organisms;
 - prior to 28/02/12 (key milestone 2): transmission by the consortium of a report dealing with the development of a strain of recombinant *Deinococcus* that digests wheat biomass effectively and produces 3% ethanol;
 - prior to 28/02/13 (key milestone 3): attestation by BENP-Lillebonne (Tereos Group) that it has received a strain of *Deinococcus* of interest for the start-up of the industrial pilot;
 - prior to 28/02/14 (key milestone 4): validation of the ethanol production in an industrial facility.

Completing each key milestone and satisfying the related conditions should make the Company eligible, given the terms of the aid agreement, for the following grants:

(in thousands of Euros)	2010	2011	2012	2013	2014	Total
Grants	498	632	576	0	301	2,007
Repayable advances	903	1,093	984	426	601	4,008
TOTAL	1,401	1,725	1,560	426	902	6,015

In July 2010, the Company received the amounts expected from the 1st payment, i.e. €1,401K. In May 2011, as a result of successfully completing key milestone 1, the Company received €632K in grants and €947K in repayable advances, totalling €1,579K. A figure slightly below that expected (a difference of -€146K), as the expenses required to complete this milestone proved lower than the original budget submitted to Oseo.

In March 2012, the Company submitted a summary statement of expenditure, for the period ended 28/02/12, to Oseo. In light of the success of key milestone 2, in August 2012, the Company received €1,152K (grant share: €383K; repayable advance share: €769K) of the €1,560K expected, as expenses for this milestone were lower than expected.

It should be noted that in return for this aid, the Company has made a commitment to pay Bpifrance (formerly Oseo Innovation), a percentage of its annual revenue derived from the commercialisation of the processes and technologies developed as part of this project, from 2017, for a maximum of nine years. The repayment total, capped at a certain amount, could exceed the total amount of advances received.

DEINOVE announced in January 2014 that it had produced ethanol at 9% by using a *Deinococcus* bacterium, demonstrating the technological and economic viability of its production process.

On 3 June 2014, the Company announced signature of a partnership agreement (with a maximum duration of 36 months) with ABENGOA, one of the major producers of bio-ethanol, meaning that the DEINOL collaborative project for producing 2nd generation bio-ethanol continues, and with renewed support from Bpifrance. Given development of production activity for the food industry in its BENP factory in Lillebonne, Tereos has decided to go no further in its involvement with the DEINOL project. Consequently, DEINOVE has accepted, in agreement with Tereos and Bpifrance, ABENGOA as a new industrial partner in the DEINOL project. This change of partner has required some adjustments to certain terms in the financial aid agreement, namely, definition of the two final key milestones, the schedule for payment of the sums in the relevant operating grants and repayable advances, and the potential financial paybacks for Bpifrance in the event of success. These adjustments were introduced by means of additional clauses to the Framework and Beneficiary agreements, signed on 9 January 2015.

The essential characteristics of the two final key milestones have thus been updated:

- prior to 28/02/15 (key milestone 3): Development of a recombinant hemicellulose and cellulo-lytic strain able to grow at 48°C, resistant to 30 g/L of sugar and producing 4 to 6% of ethanol on xylose/glucose with productivity of 1 g/L/h of ethanol; assessment of various 2nd generation industrial substrates; assimilation of sugars issuing from pre-treated lignocellulosic biomass;
- prior to 28/02/16 (key milestone 4): Preparation of industrialisation phase.

According to the terms of the additional clause to the framework agreement, the planning schedule for payments and sums in repayable advances and operating grants is therefore amended (the sums for 2010, 2011, 2012 and 2015 being the actual sums paid by Bpifrance and DEINOVE):

(in thousands of Euros)	2010	2011	2012	2015	2016	Total
Grants	498	632	383	236	309	2,058
Repayable advances	903	947	769	1,006	640	4,265
TOTAL	1,401	1,579	1,152	1,242	948	6,323

In April 2015, the Company submitted a summary statement of expenditure to Bpifrance, for the period ended on 28/02/15, relating to key milestone 3. By letter dated 3 July 2015, Bpifrance notified the Company that the third and second-to-last key milestone of its DEINOL project had been successfully completed, thereby validating the work carried out by DEINOVE's platform. This progress triggered the payment of €1,242K (repayable advance share: €1,006K; grant share: €236K) by Bpifrance.

In March 2016, the Company submitted a request to postpone the closing of the programme by four months to Bpifrance. By letter dated 15 March 2016, Bpifrance notified is acceptance for this postponement, namely changing the programme end date from 28 February 2016 to 30 June 2016.

- (iv) In July 2012, Oseo Innovation – ISI Programme - notified the Company that it had been granted €333K of aid for the THANAPLAST™ collaborative project, led by CARBIOS. This project intends to develop cutting-edge technology and processes, enabling recycling of plastic waste able to produce industrial high-performance plastics from renewable raw materials, that are competitive and have a controlled lifecycle.

This aid is made up of grants and repayable advances. The schedule of payments as provided for by the Aid Agreements is as follows:

(in thousands of Euros)	2012	2013	2014	2015	2016	2017	Total
Grants	105	0	0	0	0	19	124
Repayable advances	0	177	0	0	0	32	209
TOTAL	105	177	0	0	0	51	333

Payment of the 1st instalment of the grant share took place in December 2012, for €105K. In September 2013, following Bpifrance's acknowledgement of the fulfilment of THANAPLAST™ project key milestone 1, the Company received the full amount provided for under the agreement for this instalment, i.e. €177K in the form of a repayable advance.

- (v) In November 2013, ADEME notified the Company that an aid of €5,919K had been obtained for the DEINOCHEM project, aimed at setting up, within 42 months, a research demonstrator enabling development of production of at least two isoprenoid compounds from a model substrate. This aid, exclusively in the form of repayable advances, falls within the framework of Investments for the Future (*Investissements d'Avenir*) piloted by the French National General Commission for Investment (CGI). The 1st payment, for a sum of €1,480K, was transferred in April 2014. Following payments will be unblocked as and when the project advances and as reports on finalization of each of the three predefined key milestones are provided for ADEME. In December 2014, the Company submitted a summary statement of expenditure at 31 October 2014 (for key milestone 1) to ADEME. In light of the success of this key milestone the Company received the sum of €991K in February 2015. In the first-half 2016, the Company submitted a summary statement of expenditure for the period from 1st November 2014 to 31 December 2015 (for key milestone 2) to ADEME. In light of the success of this key milestone the Company received the sum of €1,477K in June 2016.
- (vi) Finally, it should be noted that in September 2010, Oseo Innovation had notified the Company that it had been granted €700K aid for the DEINOBIOTICS collaborative project, relating to the "identification and production of new antibiotics and antifungal compounds for hospital-resistant infections". This aid was made up half of grants and half of repayable advances. The 1st payment instalment was transferred in November 2010, for the sum of €210K. As part of the transaction of non-monetary contributions of intangible assets that the Company made in favour of DEINOBIOTICS, this Oseo aid was transferred to DEINOBIOTICS on 5 October 2012. DEINOBIOTICS, as such, took over the repayment obligations for this aid, i.e. €105K. Thus as of 30 June 2016, the Company has no liabilities in the form of repayable advances (conditional or unconditional), and is not eligible for future financing (whether repayable advances or grants), relating to this aid.

NOTE 8 | MATURITIES OF LIABILITIES AT PERIOD-END

Statements of liabilities at 30 June 2016

(in thousands of Euros)	Gross amount	Within a year	1 to 5 years	At more than 5 year
Suppliers and related accounts	882	882		
Staff and related accounts	318	318		
Social security and other social organisations	313	313		
Other taxes, duties and similar levies	113	113		
Debts on fixed assets and related accounts	100	100		
Other liabilities	7	7		
TOTAL	1,734	1,734		

Statements of liabilities at 31 December 2015

(in thousands of Euros)	Gross amount	Within a year	1 to 5 years	At more than 5 year
Suppliers and related accounts	1,677	1,677		
Staff and related accounts	384	384		
Social security and other social organisations	385	385		
Other taxes, duties and similar levies	157	157		
Debts on fixed assets and related accounts	110	110		
Other liabilities	7	7		
TOTAL	2,719	2,719		

NOTE 9 | CONTINGENT LIABILITIES RELATED TO TRADE AGREEMENTS

Research Partnership Agreements with INSATRANSFERT-SAIC:

On 18 February 2010, DEINOVE concluded a Partnership Agreement with INSA to execute a collaborative research programme with the Laboratoire d'Ingénierie des Systèmes Biologiques et des Procédés (Biological Systems and Processes Engineering Laboratory) (LISBP - Toulouse) for studying the conditions for growth and the fermentation profile of *Deinococci*, as part of the framework of the DEINOL project. An Operating Agreement on the findings of this project was concluded on 3 March 2010 between INSA and DEINOVE, in which INSA grants DEINOVE an exclusive worldwide licence for the commercial use of the findings from the collaborative research programme. In return, INSA will receive royalties based on DEINOVE's future revenue when it commercializes the findings concerned.

Research Partnership Agreements with the CNRS and Montpellier 1 University:

On 15 February 2010, DEINOVE concluded an Operating Agreement with the CNRS and Montpellier 1 University (UM1) on the discoveries made by the cooperative laboratory established with these research bodies between 1st May 2008 and 30th April 2010, and in particular on the knowledge that was the subject of five patent applications held jointly by the three partners. The CNRS and the UM1 granted an exclusive worldwide licence for commercial use of these cooperative discoveries, for a fee in the form of a one-time payment and royalties based on DEINOVE's future revenue.

On 15 July 2010, DEINOVE, the CNRS and Montpellier 1 University concluded a Partnership Agreement to undertake joint work as part of the DEINOL project. This partnership agreement, of a duration of 36 months from 28 February 2010, is a continuation of the cooperative laboratory, following the regrouping of DEINOVE staff at its Cap Alpha research installations on 15 July 2010. The operating conditions of the Agreement concluded on 15 February 2010 also apply to this partnership.

Research Partnership Agreement with SUEZ group:

On 3 June 2014 DEINOVE announced the signature of a partnership agreement in R&D with SUEZ group, agreed for a period of two years, for the transformation of urban organic waste into ethanol using the *Deinococci* bacteria. Successful preliminary testing carried out over a six-month period on substrates provided by SUEZ had led to the signing of this agreement.

The goal of the agreement is to establish a new industrial sector for transforming urban organic waste by developing a strain adapted to this low cost raw material. If successful, the technology will be scaled-up to an industrial scale in plants operated by SUEZ.

In relation to the suspension of the DEINOL project, this partnership agreement is terminated as a result.

Partnership Agreement with ABENGOA:

On 3 June 2014 DEINOVE announced the signing of a partnership agreement with ABENGOA, one of the major world producers of bio-ethanol, agreed for a maximum of 36 months, relating to the development of a DEINOVE bioprocess for

consolidated production (CBP) using a *Deinococcus* bacterium for digesting and transforming agricultural waste to ethanol at a competitive price.

The inclusion of ABENGOA into the DEINOL collaborative research programme as a new industrial partner received agreement from Bpifrance, which is continuing to provide financial support for the project. The ISI (Industrial Strategic Innovation) project is planning an aid of €6.3M for DEINOVE.

In September 2016, DEINOVE notified ABENGOA of the end of their partnership contract largely as a result of ABENGOA's financial difficulties that had caused it to sell its biofuel plants thereby making it impossible to continue with the project developed with DEINOVE.

Partnership Agreement with AVRIL:

On 22 September 2014, DEINOVE announced signature of a partnership agreement with Sofiprotéol (now AVRIL) for a period of three years, with the aim of developing a natural additive production process for animal nutrition.

On 19 May 2015, the two partners announced that they had successfully passed the 1st stage of the project, consisting in selecting 20 bacterial strains from the DEINOVE strain library for producing compounds of interest for animal nutrition. The second stage aims to characterise and test these compounds in order to assess their commercial potential.

Technological partnerships with the Michigan Biotechnologies Institute (MBI):

On 15 October 2014, DEINOVE and the Michigan Biotechnologies Institute (MBI) announced the setting up of a technological partnership aiming to assess DEINOL technology for production of biofuels based on ligno-cellulosic biomass (2G biofuels). MBI is a multi-disciplinary centre renowned in the field of bio-industries for its unique de-risking capacities. MBI works to optimise innovatory production technologies based on renewable raw materials instead of fossil fuels, in the fields of biofuel, chemical compounds and human and animal nutrition. In particular, MBI has contributed to the success of major industrial companies such as DuPont, Cargill (NatureWorks), Novozymes, and of start-ups such as Genomatica, OPX Biotechnologies and Verdezyne. After having perfected its processes on model substrates (simple sugars such as glucose and later xylose), and with a view to accelerating industrialisation, DEINOVE has approached the MBI for testing its technology on their industrial substrates: maize residues pre-treated with AFEX technology. Preliminary testing produced promising results for the assimilation of sugars found in the biomass. The purpose of this partnership is to accelerate the commercialisation of the DEINOL procedure by overcoming related technological challenges.

The suspension of the DEINOL project, and therefore work on 2nd generation biomass, de facto terminates this partnership. DEINOVE and MBI's teams mutually agreed to end the project. MBI will refocus on cattle feed and DEINOVE on speciality applications.

NOTE 10 | TAX ON PROFIT

As the Company is showing a deficit, it does not incur tax charges. The revenue of €744,522 recorded under Profit/loss under Corporate tax is exclusively made up of the Research Tax Credit (CIR). This total can be broken down into two sums: €743,880 for the receivable for the first half-year 2016 (estimate) and €642 for a positive adjustment (income) concerning CIR 2015. The sum of the tax credit provisions at the end of 2015, namely €1,640.8K, had been reviewed to €1,641.4K at the time the 2069-A form was sent to the tax authorities, which validated the request for full restitution and the refunded the tax credit in June 2016.

Carried-over tax losses and amortizations that the Company had at 31/12/15 amount to €35,242K (as a reminder: €26,036K at 31/12/14). For the financial year 2015, tax loss amounted to €9,206K. These carried-over tax losses are not time-bound. Nevertheless, the French Finance Act of 2012 capped the profit attributable annually against previous carried-over deficits at a lump sum of €1M, increased by 50% of the profit exceeding this lump sum; the fraction not charged can be indefinitely carried over.

NOTE 11 | ASSOCIATED PARTIES IN THE HALF YEAR ENDED 30 JUNE 2016

The fees invoiced over the first half-year 2016 by consultants holding BSAs amounted to €87K. Over the same period, DEINOVE reported a sum of €41K of director's fees paid to Board members (against €60K for financial year 2015).

NOTE 12 | COMMITMENTS GIVEN

Retirement Payments

Refer to the appendix to the accounts closed on 31/12/15.

Individual Training Entitlement (CPF/DIF)

Refer to the appendix to the accounts closed on 31/12/15.

Off-Balance-Sheet Commitments/ Equipment Leasing

At 30/06/16, the total rent remaining outstanding for on-going equipment leasing agreements stands at €1,223K excluding tax.

NOTE 13 | STAFF

MEAN NUMBER OF EMPLOYEES	1 st six months 2016	2015
Executives	32	30
Supervisory staff & technicians	2	2
Employees	16	15
Operatives	-	-
TOTAL	50	47

As indicated in the annual and half-yearly reports in 2015, since 1st January of 2014, the Company has lost the benefits of social security exemptions under the "Young Innovative Company" (*Jeune Entreprise Innovante*, JEI) scheme, since it is now in its eight year of activity and the scheme only applies for the first seven.

NOTE 14 | POST-CLOSING EVENTS

Strategic refocusing announced 29 September 2016

At its meeting of 27 September 2016, DEINOVE's Board of Directors validated the refocusing of the Company's activities towards health, nutrition and cosmetic applications with the objective to accelerate revenue generation and focus on higher value-added resources.

This decision draws on the following elements:

- Satisfactory progress on the R&D animal nutrition programmes run with AVRIL and Flint Hills Resources that can expect commercial revenue generation in the relatively short term.
- Studies carried out for the potential applications of carotenoids validate the interest these molecules have for cosmetic and health applications, both high value-added markets in which DEINOVE can project various revenue models either through selling licences or by directly producing compounds with partners without having to make heavy industrial investments.
- Progress made by DEINOBOTICS, of which DEINOVE currently holds 49% (N.B. DEINOVE subscribed bonds issued by DEINOBOTICS for a total €500,000 on 4 May 2016), and notably the identification of a candidate drug with a particularly interesting antibiotic activity selected for advanced preclinical studies. To optimise this development and those of DEINOVE, the Board of Directors felt it would be more effective to maximise synergies and regroup these two activities, which will now be essentially carried out at DEINOVE's offices in Grabels.
- Current developments only use a fraction of DEINOVE's strain bank, which is a high potential strategic asset that could be a new source of natural ingredients (in addition to the innovative carotenoid naturally produced by 400 of the 6,000 strains in the bank).
- The current global economic environment is unfavourable to the development of 2nd generation biofuels. The continued lull in oil prices weighs heavily on biofuel producers' competitive position and puts even more pressure on all areas of research. The various 2G fuel ethanol plants in operation are struggling to deliver on yield and production level forecasts, various technological hurdles persist, and market players are reluctant to develop new technologies as long as current plants remain unstable.
A Raymond James & Associates analyst Pavel Molchanov, specialised in cleantech energy in the United States, commenting the sector last June stated: "The scale-up of 2nd generation biofuel technologies has fallen well short of expectations. Numerous operational and mechanical incidents are occurring as a result of the near total absence of production of this type of biofuel."
- Several biotech industry players announced last month that they will refocus on specialty compounds, particularly in the fields of nutrition and personal care (cosmetics and beauty products) in face of lower oil prices and difficulties in financing their biofuel projects. This is, for instance, the case for Solazyme/Terravia, but also for Codexis and Amyris. At the same time, the main chemical industry actors initiated concentration measures, such as the DuPont and Dow Chemical merger.
- Despite progress made on the DEINOL programme, the prospect of quickly generating income from this activity does not seem realistic at this stage. ABENGOA, the DEINOL programme's main industry partner, began pre-bankruptcy procedures in November 2015. Since then, the Spanish group has decided to focus on its "engineering and industrial construction" lines of business and began a vast divestiture programme to lighten its debt and finalise an agreement with its creditors. ABENGOA sold its American biofuel plants¹⁰ (its main 2nd generation plant in Kansas was closed in December 2015¹¹) and is looking for buyers for its European sites. Under these circumstances, the DEINOL programme must be suspended.
- DEINOVE's technological breakthroughs made in particular under the DEINOL programme can be put to full use for other research programmes, including new programmes: namely in genetic and metabolic engineering of bacterial strains used for specific applications, automated strain production platform, fermentation platform, analytical department, etc.

Consequently, the Board of Directors decided to make the following changes:

¹⁰ www.ethanolproducer.com/articles/12988/abengoa-announces-plan-to-sell-first-generation-biofuel-assets

¹¹ www.biofuelsdigest.com/bdigest/2015/12/03/abengoa-shuts-down-hugoton-colwich-st-louis-hq/

- reintegrate DEINOBIOTICS' operations within DEINOVE: part of DEINOVE's resources will be reallocated to the development of DEINOBIOTICS' programmes, which in return will share its know-how in the production, categorisation and optimisation of secondary metabolites with DEINOVE.
 - In legal terms and subject in particular to (i) the signing of the contribution plan and (ii) approval of the contributions in kind and decision of the subsequent capital raise by DEINOVE's Combined General Meeting to be held in the next few months, DEINOVE will hold 100% of its DEINOBIOTICS subsidiary, following DEINOBIOTICS SAS' shareholders contributions in kind of their shares in favour of DEINOVE.
- DEINOVE's launch of a vast programme to screen its strain library should result in the identification of speciality compounds in the fields of health, nutrition and cosmetics. This programme is currently in an *in vitro* screening phase to identify positive hits that will be sent on for more efficacy testing to validate their interest for these sectors.
- DEINOVE's other resources will be allocated in priority to continuing the development of carotenoids, programmes developed with AVRIL, Flint Hills Resources and other more upstream programmes with partners that have not yet been made public. All efforts will be focused on reaching these programmes' objectives and generating revenue as soon as possible. The development of other speciality compounds will benefit from the incredible biodiversity that is unique to DEINOVE. Speciality compounds are characterized according to the shortest development period and highest potential profit margins.
- The DEINOL programme has been suspended, along with its associated partnerships (ABENGOA, SUEZ, MBI, TYTON, et ARBIOM). DEINOVE will continue to examine all avenues for creating value from the assets in this DEINOL programme.
- Reorganisation of DEINOVE:
 - Dominique Le Bellier and his team will report directly to DEINOVE.
 - A preclinical study project manager will join the antibiotic development team.
 - The teams previously assigned to the DEINOL project and the Biomass platform will join the DEINOBIOTICS, screening, fermentation and analytics teams.
 - The number of DEINOVE employees after DEINOBIOTICS has been integrated will remain relatively close to the current set-up.

DEINOVE will now concentrate its research on high value-added applications in the following fields:

- health, by looking for molecules with antimicrobial properties that can lead to the development of new antibiotics or antifungals, and by exploiting the therapeutic properties of other compounds such as carotenoids that could be of interest for inflammation, ocular health, skin disorders, etc.;
- human and animal food, with molecules that have colouring, antioxidant and nutritive properties;
- cosmetics and beauty products, with molecules that are antioxidant and anti-aging, texturizing agents, etc.

DEINOVE's ambition is to become a leading biotechnology company that, by exploiting its biological heritage and technological platform, provides radical innovation in the areas of health, nutrition and cosmetics.

4 | DECLARATION OF THE PERSON RESPONSIBLE FOR THE INTERIM FINANCIAL REPORT - HALF-YEAR

I hereby certify, to the best of my knowledge, that the accounts presented in the interim financial report for the half-year ended have been drawn up pursuant to the applicable French accounting standards and provide a faithful view of the assets, financial position and profit(loss) of the Company. I also certify that the half-year activity report (appearing on pages 4 to 17) gives, to the best of my knowledge, a faithful picture of the key events having occurred during the six first months of the fiscal year and their impact on the half-year accounts, main transactions between associated parties, and a description of the main risks and uncertainties for the remaining six months of the fiscal year.

Emmanuel Petiot
CEO

Person responsible for financial information

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