



## **Convector Natural Fusion N.V.**

(public limited company, incorporated in The Netherlands, with statutory seat in Rotterdam)

and

## **Stichting Administratiekantoor Convector Natural Fusion**

(shareholding trust foundation, incorporated in The Netherlands, with statutory seat in Rotterdam)

Convector Natural Fusion N.V. (the "Company") is engaged in developing a steady-state nuclear fusion reactor of modest size utilising self-supported atmospheric fireballs also known as ball lightning. Thunderstorm conditions create such plasma balls usually upon lightning discharge. Man-made analogues arose from comparable short-circuit currents driven by submarine propulsion batteries. The Company models ball lightning by charged boson states linking observations of long lifetimes, high energy content, coloured envelopes and ionising radiation to nuclear fusion of atmospheric deuterium. The proposed research, development and demonstration project pursues fireball ignition at standard atmospheric conditions by photonics technology without costly cryogenic confinement magnets and vacuum pump systems. The Company combines advanced fireball modelling with hands-on experience gained from two test facilities designed and operated in the 1980s. Scale rules specify electric discharge and shear flow regimes for electron condensation into bosonic vortex cores circulating at the quantum limit. Uniform co-circulation of ambient plasma carries light nuclei into their fusion regime. New apparatus with wire-based electrodes will replace erosive contacts as were used for battery-powered tests in Rotterdam Waalhaven. Photonic response will enable fireball ignition without erosive damage, using high-voltage discharge driven by capacitor banks operational at KEMA High-Power Laboratory in Arnhem. A standard mixing unit for fuel and carrier gas will control Convector reactor output. Validation of the concept and successful completion of the project will open global markets for the Convector natural fusion reactor as a safe and sustainable source of primary energy. It will foster sustainable growth of the global economy, resolve major environmental impacts of ongoing fossil fuel consumption, stabilise the world market for fossil fuels, and preserve fossil fuels for alternative future use.

To finance initial activities of its planned research, development and demonstration project (the "Project"), a publicity campaign, and issue related costs for a planned and larger follow-up issue covering up to the complete project budget, the Company is offering, through the Stichting Administratiekantoor Convector Natural Fusion (the "Issuer"), up to 24,999 depository receipts of new class B shares. The Issuer will act as the depository of the underlying shares.

### **Issue of 24,999 depository receipts in respect of new class B ordinary shares**

par value €0.10 per share; receipts with restricted convertibility; shares and receipts in registered form

### **Issue price EUR 100.00 per depository receipt**

For each issued and paid for depository receipt, the Issuer will purchase one class B share in Convector Natural Fusion N.V. at a price of €100.00 (€0.10 par value and €99.90 share premium). Issued depository receipts will be registered in the name of the holder in the register of depository receipts, which will be kept by the Company on behalf of the Issuer. Convertibility of the depository receipts is restricted. In case of an unsuccessful end of the activities and dissolution of the Company, only the holders of depository receipts in respect of class B shares will be entitled to proportional refund of the remaining share premium reserve. Subscription will be open until all depository receipts will have been subscribed to, with a maximum duration of one year. Initial research and development activities will start as soon as the proceeds of the issue permit, and, as far as needed, will be synchronised with the available budget and be temporised accordingly. For further conditions, and for subscription details, see the chapter "Terms and conditions of the issue, and procedure for subscription" and the Company web site: [www.convector.eu](http://www.convector.eu).

The depository receipts offered hereby involve a **high degree of risk**. In view of this, the attention is drawn to the information that is provided in the chapter "**Risk factors**" on page 7.

Ownership of the depository receipts is freely transferable, at an administrative cost of €20.00 per transfer transaction. The depository receipts will not be listed on any stock exchange, and no organised market for the receipts will exist. The voting rights attached to the underlying shares will not be exercised by the Issuer, and be granted per general meeting to the depository receipt holders who so request, unless there are compelling reasons not to do so.

The authorised capital of the Company amounts to €225,000.00, divided in ordinary shares of par value €0.10 per share, of which 1,850,000 of class A and 400,000 of class B. At the date of publication of this prospectus, 1,040,000 class A shares are outstanding, held by the Stichting Administratiekantoor Vortex ("Vortex"), a shareholding trust foundation controlled by the founders. In the previous issue 35 depository receipts in respect of class B shares have been sold to investors. Of the class A shares held by Vortex, a block of 40,000 shares is reserved for implementation of the "Share exchange regulation previous investors", and made available for this purpose to the Issuer, which implements and administers the regulation (for details, see section 16.4).

Investors should be aware that this prospectus is published under the exemption formulated in article 1 clause 2 sub h of the Prospectus Directive, which is reflected in article 53 clause 2 of the Exemption Regulation pursuant to the Financial Supervision Act of The Netherlands. In view of this exemption, this prospectus has NOT been approved by the Netherlands Authority for the Financial Markets (the AFM). (for details, see section 10.3).

Prospectus published on 1 August 2011 by Convectron Natural Fusion N.V., in close cooperation with the Stichting Administratiekantoor Convectron Natural Fusion. The date of publication is the date of the start of the issue. The prospectus is available at the Company web site ([www.convectron.eu/documents](http://www.convectron.eu/documents)).

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## General notices

For definitions of important terms used in this prospectus the reader should refer to chapter 18 - "Glossary". This especially concerns the terms Company, Issuer, Predecessor, Project and Vortex.

The web site "[www.convectron.eu](http://www.convectron.eu)" is the web site of the Company, and is referred to in this prospectus as "the Company web site". It also hosts the activities of the Issuer.

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# 1 Summary

## 1.1 Introduction

This chapter constitutes a summary of the essential characteristics and risks associated with the Issuer, the Company and the depository receipts, and of the offering. This summary shall be read as an introduction to the prospectus. Any decision to invest in the offered depository receipts shall be based on consideration of the prospectus as a whole by the investor, including, but not limited to, the risks as set out in the chapter "Risk factors". In case a claim, relating to the information contained in this prospectus, is brought before a court, the plaintiff investor may, under the national legislation of the Member States of the European Union, have to bear the costs of translating the prospectus before the legal proceedings are initiated. Civil liability attaches to the members of the Management Board of the Issuer in the Member States of the European Union with respect to this summary including any translation thereof, but only if the summary is misleading, inaccurate or inconsistent when read together with the other parts of the prospectus.

## 1.2 The Company and the Issuer

The Company (the public limited company Convectoron Natural Fusion N.V.) was incorporated under the laws of The Netherlands by notarial act of 4 January 2010. It has its statutory seat in Rotterdam, The Netherlands. Its registered office is at Wilhelminakade 965, 3072 AP Rotterdam, The Netherlands. The authorised capital amounts to €225,000.00, and is divided in registered ordinary shares of par value €0.10 per share, of which 1,850,000 class A shares and 400,000 class B shares. At the date of publication of this prospectus, the outstanding shares amount to €104,000, consisting of 1,040,000 class A shares, held by the Stichting Administratiekantoor Vortex ("Vortex"), a shareholding trust foundation controlled by the founders of the Company, while 35 depository receipts in respect of class B shares have been sold to investors. Of the class A shares held by Vortex, a block of 40,000 shares is reserved and made available to the Issuer, for implementation of the "Share exchange regulation previous investors", concerning the future exchange of original certificates of class B shares in the Predecessor, the public limited company Convectoron N.V., with statutory seat in Rotterdam, The Netherlands, which was dissolved 8 October 2009, for class A shares in the Company.

The Issuer (the shareholding trust foundation Stichting Administratiekantoor Convectoron Natural Fusion) was incorporated under the laws of The Netherlands by notarial act of 4 January 2010. It has its statutory seat in Rotterdam, The Netherlands. Its registered office is at the office of the Company, at Wilhelminakade 965, 3072 AP Rotterdam, The Netherlands. The depository receipts are issued with cooperation of the Company.

## 1.3 Fireball technology

Company activities will focus on realising a small-scale steady-state nuclear fusion reactor using the physics of ball lightning. Convectoron applies recent progress in electromagnetics research to model ball lightning and similar atmospheric fireballs as photonic plasmoids (plasmoids are small plasma spheres). The model links long life-time of ball lightning (several seconds on average) with quantum fields, whereas classical (Newtonian) forces dissolve lightning plasma in milliseconds. High-energy regimes enter the model via charge separation in microscopic vortex strings entraining light nuclei above the threshold for fusion reactions. Ignition of natural deuterium in air enables lifetimes above one minute as seen in some ball lightning events. Natural fusion processes dress photonic ball lightning in reported double haloes just as blue Cherenkov emission surrounds nuclear fission reactors submerged in water.

Company test programs will develop wire-based electrodes for fireball ignition, stabilise natural atmospheric fusion in a reaction chamber, and inject fuel boosting fusion power to levels needed for market value. Ignition tests pursue non-erosive fireball generation by microwave photonics technology replacing circuit breakers and spark gaps in test facilities operated by the Predecessor. Pulsed power from high-voltage capacitors charges fireball eigenstates with core regions at deuterium fusion potentials. Field contours and nozzle flows guide fireballs to a stable position inside the reaction chamber. Carrier gas circulation also regulates the en-

ergy output by standard methods for fuel injection and cryogenic waste removal.

Convectoron fusion power will heat water and generate electricity without costly magnets, pumps or laser systems as needed in current magnetic or inertial confinement schemes. Its deuterium fuel secures open access to primary energy resources spread over the Earth in water. Extraction of pure deuterium from water by electrolysis and cryogenics takes only minute fractions of the fusion energy released. Natural deuterium in hydrocarbons stores more fusion energy in oil and gas than combustion can release from them. Production costs of deuterium are bound to decline when hydrogen-based economies meet market demands for pollution-free heating, electric power and transportation.

#### **1.4 Applicable law**

The laws of The Netherlands are applicable to the offering.

#### **1.5 Offering and subscription period**

This prospectus concerns the public offering and issue of up to 24,999 depository receipts in respect of new class B ordinary shares of €0.10 par value, at a fixed issue price of one hundred euro (€100.00) per depository receipt. Both the shares and the depository receipts are in registered form. Subscription will be open until all depository receipts will have been subscribed to, with a maximum duration of one year.

#### **1.6 Subscription, purchase and allotment**

Subscriptions are preferably done via the Company web site. A subscription needs to be accompanied by a simultaneous payment of the total issue price of the subscription. Issue of the related depository receipts is considered to have taken place on a completed payment. Subscriptions will be immediately allotted in order of the receipt of the respective payments, up to the maximum number of available depository receipts.

#### **1.7 Rights attached to the depository receipts and to the shares**

The rights attached to the depository receipts of class B shares include the right to dividends and other payments made available on the depository receipts. As the depository receipts are issued with cooperation of the Company, the depository receipt holders have, by law, the right to attend and speak at general meetings of the Company, and to receive invitations for such meetings. However, they do not have the right to vote. Meetings of depository receipt holders are organised whenever deemed necessary by the Management Board of the Issuer, or if so requested in writing by one or more depository receipt holders representing at least on tenth of the depository receipts issued. Ownership of the depository receipts is freely transferable, at an administrative cost of €20.00 per transfer transaction (irrespective of the number of depository receipts involved). Convertibility of the depository receipts is restricted. Only the Management Committee of the Issuer can take a decision concerning exchange of the depository receipts for the underlying shares, but will take such decision only subject to an explicit request of the Management Board of the Company. The depository receipts will not be listed on any stock exchange, and no organised market for the depository receipts will exist. The depository receipt holders remain solely entitled to any payments on the underlying class B shares by the Company from the share premium reserve attached to these shares. The Issuer will make any payments on the underlying shares immediately available for payment on the related depository receipts. The Issuer will provide, per general meeting, to depository receipt holders who so request, a mandate to exercise the right to vote attached to the underlying shares, in which case the depository receipt holders concerned are free to determine the way in which they will vote. As determined in the terms and conditions of the administration, the Issuer will refrain from exercising the voting right for shares for which no mandate has been provided. The Issuer can refrain from providing such mandate if, to its own discretion, its provision is contrary to important interests of the Company and all persons involved.

The rights attached to the underlying class B shares include the right to dividends and other payments made available on the shares, the right to liquidation payments, and the right to vote in the general meeting (one vote per share). In addition, the holders of class B shares remain solely entitled to any payments on these

shares made from the share premium reserve. Following a successful completion of the planned research, development and demonstration activities, the reserve will be supplemented, if needed gradually, and conditions permitting, either from a next share issue, or from future revenues, or a combination, and will be placed at the disposal of the holders of the class B shares.

### **1.8 Register of depository receipts**

Issued depository receipts will be registered in the name of the holder, in the register of depository receipts, which will be kept by the Company, in cooperation with the Issuer. No certificates will be issued.

### **1.9 Use of proceeds**

The Issuer will use the proceeds from the sales of the depository receipts entirely for the purchase of shares in the Company. The Issuer will pay to the Company €100.00 per share of €0.10 par value. The costs of the Issuer will be borne by the Company.

This issue is of limited size, as it is carried out under the exemption formulated in article 1 clause 2 sub h of the Prospectus Directive, which is reflected in article 53 clause 2 of the Exemption Regulation pursuant to the Financial Supervision Act of The Netherlands. The Company will use the proceeds from the sales of the shares of the current issue to finance initial activities of its planned research, development and demonstration project (the "Project"), a publicity campaign (to create public awareness of the offer and the Project), other issue-related costs, as well as initial costs for a planned next larger issue covering up to the complete project budget.

The intended combined size of the current issue and the prospective follow-up issue is 400,000 depository receipts. Of the combined proceeds of both issues from the sales of the shares, the Company will allocate and use a minimum of 90% for executing the "Research, development and demonstration plan". A maximum of 10% of the proceeds will be used to cover issue costs, including commissions to resellers, costs of the campaign and costs of the Issuer. At the initial stage of the current issue, a larger share of the proceeds will be used to finance the costs of the issue. Initial research and development activities will start as soon as the proceeds of the issue permit, and, as far as needed, will be synchronised with the available budget and be temporised accordingly.

### **1.10 Account for a proper use of funds**

In order to account for a proper use of funds, the Company will publish, during the full-time research and development phase, within one month of every quarter, a report certified by its statutory auditor, concerning the use of funds in the past quarter. These reports will be published at the Company web site ([www.convectron.eu/documents](http://www.convectron.eu/documents)).

### **1.11 Withholding tax**

Dividends with respect to the depository receipts will be subject to Dutch withholding tax at a rate of 15 %.

### **1.12 Summary of the material risks**

The depository receipts offered in this issue involve a high degree of risk. The following is a summary of what the Issuer believes to be the material risks associated with the Issuer, the Company, the depository receipts, and the offering. A more elaborate account of the material risks is given in the chapter "Risk factors".

1. The attitude of the scientific establishment, and its potential influence on the extent to which the issue will be successful.
2. The possibility that the model will appear to be incorrect despite its solid foundations.
3. The current patent position: at present the Company has no patents, one new patent application is to be submitted as soon as proceeds from the current issue permit, additional applications are foreseen.

4. The high degree of dependence for success on the founders, and especially on Dr Dijkhuis, who is the inventor of the Convectron concept.
5. Dependence on licences that may be required by legislation and regulations for some parts of the planned experimental activities.
6. Dependence on third party test facilities, needed for carrying out the experiments.
7. Majority of ownership of the Company gives the founders decisive influence over the outcome of corporate actions requiring shareholder approval.
8. Substantial attention upon positive results may require efforts for adequate response that are beyond the capacity of the Company at that stage of development, which may hamper future market success.
9. The current issue is of limited size to meet an exemption rule in the Prospectus Directive. In view of this the current prospectus is not approved by the Dutch Authority for the Financial Markets.
10. The current issue is the first stage of an intended two-stage issue approach. This implies additional risks for the investors in this issue.
11. Limited success of the issue bears a substantial risk of partial or complete loss of investment.
12. A high proportion of the proceeds of the current issue will be used to cover issue costs, which may lead to partial or complete loss of investment.
13. Start of the initial research and development activities as soon as the proceeds of the issue permit, may lead to partial or complete loss of investment.
14. As the success of the current issue depends much on the success of the intended follow-up issue, the above-mentioned risks continue to exist, even if the current issue is successfully completed.
15. No dividends will be paid in the foreseeable future.
16. Potential risk of partial or complete loss of investment upon unsuccessful end of activities.
17. The lack of a regulated or otherwise organised market for the depository receipts.

## 2 Risk factors

Before investing in the depository receipts offered through this prospectus, each prospective investor shall carefully consider the following risks and uncertainties, in addition to the other information described in the prospectus. The Issuer and the Company believe that the following risk factors are specific to the Company, its technology, its planned activities, the expected results of these activities and the prospects of the Company, as well as to the depository receipts offered. If any of the following risks actually materialises, the business, results of operations, financial condition or prospects of the Company could be materially adversely affected. In that event, the value of the depository receipts could decline, and an investor might lose part or all of his or her investment. In addition, if two or more risks materialise simultaneously or accumulate, the business, results of operations, financial condition or prospects of the Company could be even more adversely affected, and the value of the depository receipts could further decline. Although the Issuer and the Company believe that the risks and uncertainties described in this chapter are the most material risks and uncertainties facing the Company, additional risks and uncertainties that have not at present been identified by the Company and the Issuer, or that at present are considered immaterial by the Company and the Issuer, may eventually appear to be material risks as well, and may, if they materialise, also adversely affect the business, results of operations, financial condition or prospects of the Company, and thereby also adversely affect the value of the depository receipts. Each prospective investor is explicitly advised that an investment in the offered depository receipts entails a substantial financial risk.

Each prospective investor shall carefully review all information provided in this prospectus, including but not limited to the information provided in this chapter, and shall make his or her own independent examination and assessment of the Company and the Issuer, and of the merits and demerits, and of the risks, of investing in the depository receipts offered, taking into account his or her personal circumstances. Any decision to invest in the offered depository receipts shall be based on consideration of the prospectus as a whole by the investor. Furthermore, each prospective investor is advised, before making a decision to invest in the depository receipts, to consult his or her financial, legal and tax advisors to carefully review the risks associated with an investment in the depository receipts, especially also in view of the personal circumstances of the prospective investor.

### 2.1 Attitude of the scientific establishment

The underlying boson model of the Convectron approach towards nuclear fusion is based on advanced and complex, but solid physics theory. Previous share issues in the 1980s of the Predecessor of the Company were mainly limited to The Netherlands. These have experienced severe opposition and even ridicule by part of the Dutch scientific establishment. In the mean time the model has much progressed in mathematical detail and explanatory power. Basic elements that were formerly opposed have now become generally accepted principles in related fields with great promise for future applications. Essentially the Convectron boson model is a plasma version of photonics as currently used for solid matter. But remaining elements for ill-founded opposition could still impair the success of the issue and of the undertaking as a whole.

### 2.2 Validity of the model

The approach is based on advanced physics for a well-documented natural phenomenon. This phenomenon, ball lightning, has puzzled scientists for several centuries, and many different explanatory models were proposed over time. The Convectron model stands out by its robust mathematical framework unifying population statistics, binding forces and energy conversion in the ball, including nuclear fusion of atmospheric deuterium. Log-normal statistics connects usual life-times (several seconds) with exceptional life-times (above 1 minute) of high-energy ball lightning. Well-documented widths and colour of haloes observed around one high-energy event visualise free ranges for charges from deuterium-deuterium reactions. Halo colours match blue Cherenkov light from nuclear fission reactors submerged in water. Polaroid sun glasses will suffice to identify such radiation directly by eyesight. Power output at commercial levels merely demands raising the deuterium concentration by a factor of one hundred above moist air. Scale rules quantify the road map towards a definite proof of principle, and beyond towards demonstration of a working prototype reactor. How-

ever, despite solid foundations in observations and theory, the model, or parts of it, may in the end turn out to be mistaken.

### **2.3 Patent position**

The Predecessor of the Company owned patent rights in several European countries, Canada and Australia, on two possible methods for creation of fireballs, and on the method and apparatus for positioning, fuelling and maintaining a ball in a reactor chamber. Due to the situation of the Predecessor at the end of the 1980s, these patent rights were eventually not maintained, and only a patent in Canada remained, which however has expired several years ago. In the mean time, a third and expectedly more efficient and adequate approach for fireball ignition has been identified and elaborated. A patent application covering this new method is in preparation, with expected submission as soon as proceeds from the current issue permit. Further, the Company is confident that the intended research and development activities will generate sufficient relevant substance for one or several additional patent applications. Despite this, it needs to be understood that the Company currently has no patent or patent application, and that this entails a certain but limited risk for its future profitability. Although the Company believes that it is well ahead with its know-how and technology, and will be in time to secure its patent position concerning the technology, it nevertheless may appear that there will be competing patent applications on the same or similar technology, which may lead to complex legal issues and proceedings, which in turn may adversely affect the patent position of the Company, and thereby adversely affect the prospects and future profitability of the Company.

### **2.4 Dependence on founders for success**

The Convectoron model for ball lightning and its derived concept for a small-scale nuclear fusion reactor originates from Dr Dijkhuis, one of the two founders of Convectoron Natural Fusion N.V. Success of the Project (the intended research, development and demonstration activities) is in the first place highly dependent on his insights, knowledge and know-how. Without his contributions, it would be much more difficult to set up the right experiments, to secure the intellectual property rights, and to follow the path that may lead to success. Even though a protocol has been recorded, describing which experiments to carry out in which order, in an attempt to enable other persons than Dr Dijkhuis to carry out the experiments independently, it remains a high risk that much of the related knowledge is currently concentrated in the head of one person. In addition, also the contributions of the other founder, Mr Wevers, are crucial for success. He has been deeply involved in the past activities, has gained from this substantial relevant expertise and experience, and is aware of many relevant details in the technical area. In addition, he is administering the business side of the enterprise. The two gentlemen have formed a strong partnership since 1979, and it is through this and their different capacities that the current endeavour is at all possible. This dependence on the founders naturally bears a certain risk.

### **2.5 Dependence on licences required by legislation and regulations**

The company will need for its operations certain licences from the authorities that are required according to legislation and derived government regulations, for instance licences in the framework of the Environmental Act of The Netherlands (in Dutch: "Wet milieubeheer"), the Working Conditions Act of The Netherlands (in Dutch: "Arbeidsomstandighedenwet"), and at a later stage of the research and development activities also in the framework of the Nuclear Energy Act of the Netherlands (in Dutch: "Kernenergiewet"). Furthermore, if the Company seeks to build and operate a proprietary test facility, this may require special licences. Which licences will be required will also depend on the location the Company will choose to house its experimental operations. Acquisition of such licences from the authorities may sometimes require considerable time. This may form a material risk for a smooth and timely execution of the planned research and development activities.

### **2.6 Dependence on third-party test facilities**

Access to high-power facility services is an essential prerequisite, and therefore a critical success factor in the planned research and development activities of the Company. The number of such facilities is rather lim-

ited. Even though preliminary exploratory discussions have been held in recent years with the management of a small-scale facility at the Technical University of Delft, and with the management of the KEMA High-Power Laboratory, dependence on such services implies a material risk to the Company. An attractive alternative to the use of these facilities, which is under consideration, and which is covered by the current budget, is construction of a proprietary high-power facility. However, acquisition of required licences and the considerable time sometimes needed for this (see previous risk item), may hamper such approach.

## **2.7 Majority of ownership of the Company controlled by the founders**

Following a completely successful issue, the majority of the outstanding shares will still be owned by the Stichting Administratiekantoor Vortex, a shareholding trust foundation controlled by the founders. As the first four years of the Company are crucial for success, and as the founders are crucial for a successful course of events in these years, this balance of power has been chosen on purpose. It implies that the founders through Vortex will have a significant and in fact decisive influence over the outcome of corporate actions requiring shareholder approval. Although the interests of the founders and the new investors are pointing in the same direction, and although the Management Board has the intention to carefully listen to the opinions of depository receipt holders at general meetings and meetings of depository receipt holders, and to try to take into account such opinions, situations may arise where the interests of the founders may conflict with the interests of the holders of the depository receipts in respect of class B shares. This is to be considered a material risk for the investor in such depository receipts.

## **2.8 Size of the Company and uncertainty of future market success**

The Company starts nearly from scratch as a small start-up research and development enterprise. The Company will grow during the execution of the four-year research, development and demonstration project, but at the end of this period the Company will still be a relatively small enterprise. As soon as the Company will have been able to prove and demonstrate that its concept of a small-scale nuclear fusion reactor is correct and viable, and if by that time the Company has been able to acquire sufficient protection by one or more patents, it will be the owner of a highly attractive new technology with substantial potential, which is expected to establish a new market of considerable size. This may effect considerable and ongoing interest and attention. Adequate response to this situation may require efforts that are beyond the capacity of the Company at that stage. Although the Company will seek timely and adequate advice and support to address such situation, this entails a material risk for the future success of the Company. In addition, although the Company in view of its know-how and intellectual property rights should become a major player in this new market, the attractiveness and potential of the technology may induce extensive and severe competition, especially from large and established industrial players, which, considering that the Company by that time will still be a relatively small enterprise, may adversely affect its capability to fully exploit its prospects in this market, even though the Company considers to build strategic partnerships by the time this market will start to develop, in order to secure its position therein.

## **2.9 Limited size of the current issue, prospectus not AFM-approved**

A previous issue was active for one year based on a prospectus dated 21 June 2010, which was approved by the Authority for the Financial Markets (AFM) of the Netherlands. The issue comprised 400,000 depository receipts and intended proceeds of €40 million, covering the complete budget for the research, development and demonstration activities (the Project; 90%) as well as issue costs (10%). Due to as yet insufficient public awareness of the offer and the Project, the previous issue did not yet bring the success that is needed.

The current issue is of limited size, as it is carried out under the exemption formulated in article 1 clause 2 sub h of the Prospectus Directive, which is reflected in article 53 clause 2 of the Exemption Regulation pursuant to the Financial Supervision Act of The Netherlands. In view of this, the current prospectus does not require AFM approval, and, in order to save on costs, the Company has not applied for such approval for this prospectus. Even though the text of the prospectus is largely based on the text of the prospectus of 21 June 2010, which was AFM-approved, and the Management Committee of the Issuer has endeavoured to meet the

legal requirements for an AFM-approved prospectus, full compliance is not guaranteed, and the fact that this prospectus does not have AFM approval, implies an additional risk for the investor.

## **2.10 Current issue first stage of intended two-stage issue approach**

The current issue is the first stage of an intended two-stage issue approach to secure funding for the complete budget of the Project, as well as for the issue costs. On successful completion, the current issue will be followed by a much larger issue, such that the combined value of the current issue and the intended follow-up issue will cover total proceeds of €40 million. The Issuer will submit the prospectus for this future follow-up issue to the AFM for approval. Of the proceeds of the current issue a relatively large part (much larger than 10%) will be used to cover issue costs, especially the costs of a publicity campaign to increase public awareness of the offer and the Project, and specific costs to enable the follow-up issue. This implies substantial risks for the early investors in the depository receipts offered in this limited size issue.

## **2.11 Limited success of the issue bears substantial risk of partial or complete loss of investment**

The investor should be aware of the substantial risk of partial or complete loss of his or her investment if the current issue will only be partially successful. If not all depository receipts will have been issued within the one year duration of the issue, the Issuer will, according to the terms of the issue, call a meeting of the holders of depository receipts in respect of class B shares, to discuss and resolve between two possible courses of action: (1) the launch of a new issue of limited size, similar to the current one, by means of publication of an updated prospectus, and continuation of the initial research and development activities, and especially of the publicity campaign, synchronised as needed with the available budget; (2) discontinuation of the activities and cancellation of the issue.

In scenario 1 the substantial risk exists that also the next limited size issue will be insufficiently successful, and that the Company eventually will run out of funds and will need to discontinue its activities (then following scenario 2) before having been able to initiate the intended large-scale follow-up issue for securing sufficient funds for the Project, before having been able to make any substantial progress towards providing a proof of principle, and before having established any tangible results of value. In such situation little or nothing of the acquired funds will be left for reimbursement to the investors, who may have to take a substantial or even complete loss of their investment. In scenario 2 the final situation may be very similar, with limited or no funds available for reimbursement to the investors.

Reimbursement to investors in depository receipts in respect of class B shares upon discontinuation of the activities concerns remaining funds after deducting all actual costs incurred by the Company and the Issuer, including the operational costs, the costs of the issue and the publicity campaign, the costs of the research and development activities performed, and the costs of the dissolution of the Company and the Issuer. The lower the number of depository receipts issued, the higher the risk and the potential proportional reduction of the reimbursement.

The investor should especially be aware of the risk factors described in the next two sections, which will add to and aggravate the risk described in this section. The maximum size of the loss of the investor will be limited to the size of the investment made.

## **2.12 High proportional issue costs increase the risk of partial or complete loss of investment**

In the current limited size issue, a larger share of the proceeds than the maximum of 10% as allocated for the combined anticipated proceeds of the current issue and the planned future follow-up issue, may be used to finance the issue, the costs of the Company and the Issuer, and especially the publicity campaign. This arrangement implies additional risk in case the issue will have only limited success, and thereby will add to and aggravate the risk described in the previous section.

**2.13 Initial R&D activities may add to the risk of partial or complete loss of investment**

Initial research and development activities will start as soon as the proceeds of the issue permit, and, as far as needed, will be carefully synchronised with the available budget and be temporised accordingly, especially also in view of the budget needed for the publicity campaign. Despite the synchronisation, this arrangement implies additional risk in case the issue will need to be cancelled following a decision of a meeting of depository receipt holders, as indicated in section 2.9, and may in such scenario substantially add to the size of the potential reduction of the reimbursement to the investors, without compensation from any tangible results other than a patent application.

**2.14 Success of current issue depends on success follow-up issue**

As the current issue is the first stage of an intended two-stage issue approach to secure funding for the complete budget for the Project, the investor should be aware that the above-mentioned risks continue to exist, even if the current issue is successfully completed. The eventual success of the current limited size issue is much dependent on the success of the larger follow-up issue, which will be partly financed from the proceeds of the current issue (especially by using a substantial part of the proceeds to finance the publicity campaign).

**2.15 No dividends in the foreseeable future**

The proceeds of the issue are used to finance initial research and development activities, and especially the publicity campaign to increase public awareness of the offer and the Project, in order to enable the planned follow-up issue for financing the complete Project budget. Execution of the Project may lead to a marketable product in the future. However, the Company currently has no product, has no income from sales or other sources, and will have no income for the first years of the operation. This means that the investor will have a zero return on investment during this period.

**2.16 Potential risk of partial or complete loss of investment upon unsuccessful end of activities**

Even if both the current issue and the intended follow-up issue will be completely successful, the investor has to take into account the real possibility that he or she in due time will have to fully or partially write off the investment. If a successful conclusion of the research and development activities will not be achieved, at the end of the Project the investor will have to take a loss on the investment made. The earlier in the Project a "no go" decision will occur, the smaller the proportional loss. However, the maximum size of this loss will be limited to the size of the investment.

**2.17 No regulated or otherwise organised market for the depository receipts**

Although ownership of the depository receipts can be freely transferred, there will be no regulated or otherwise organised market for the depository receipts. Therefore it may be difficult for an investor to sell the receipts at any time before a successful proof-of-principle. Only after: (1) a successful conclusion of the research, development and demonstration plan; (2) the intended simultaneous exchange of the depository receipts for the underlying registered shares; and (3) conversion of the registered shares into bearer shares, an application for admission of the shares to trading may be done with a view to their distribution in a regulated market or other equivalent markets.

### **3 Important information**

#### **3.1 Responsibility**

The Company and the Issuer jointly accept responsibility for the information contained in this prospectus. Each of the Company and the Issuer declares that, having taken all reasonable care to ensure that such is the case, the information contained in this prospectus, to the best of their knowledge, is in accordance with the facts and contains no omission likely to affect its import.

No person is or has been authorised to give any information or to make any representation concerning the Company or the Issuer, in connection with the offering or sale of the depository receipts, other than as contained in this prospectus, and, if given or made, any such information or representation must not be relied upon as having been authorised by the Company or the Issuer.

Neither this prospectus nor any other information supplied in connection with the issue of the depository receipts shall be considered as a recommendation by the Company or the Issuer that any recipient of this prospectus or of any such other information should purchase any depository receipts. Each prospective investor shall make his or her own independent examination and assessment of the Company and the Issuer, and of the merits and demerits, and of the risks, of investing in the depository receipts offered. Any decision to invest in the offered depository receipts shall be based on consideration of the prospectus as a whole by the investor, including, but not limited to, the risks as set out in chapter 2 - "Risk factors".

This prospectus is to be read in conjunction with the documents which are listed in section 3.4 - "Documents available on display".

Neither this prospectus nor any other information supplied in connection with the issue of the depository receipts constitutes an offer or invitation by or on behalf of the Company or the Issuer to any person to subscribe for or to purchase any depository receipts in jurisdictions where it is unlawful to make such offer or invitation.

The Company and the Issuer are not providing prospective investors with any legal, financial, business, tax or other advice. Prospective investors should consult with their own advisers as needed to assist them in making their investment decision and to advise them whether they are legally permitted to purchase the depository receipts.

#### **3.2 Forward-looking statements**

This prospectus may contain unaudited forward-looking statements, including statements about or based on views, insights, expectations, plans, targets, estimates and projections of the Issuer and the Company, and including statements that are not based on historical facts. In particular the words "expect", "anticipate", "estimate", "may", "should", "believe", "intend", "plan", "aim", "could", "will", "potential", and similar expressions, are intended to identify forward-looking statements. Forward-looking statements involve inherent risks and uncertainties and speak only as of the date they are made. The Issuer and the Company undertake no duty to and will not necessarily update any of them in light of new information or future events, except to the extent required by applicable law. The Issuer and the Company caution investors that a number of important factors could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements. These factors include but are not necessarily limited to the factors discussed in chapter 2 - "Risk factors".

#### **3.3 Offering restrictions**

The distribution of this prospectus and the offering, sale and delivery of the depository receipts in certain jurisdictions may be restricted by law. Persons into whose possession this prospectus comes are required by

the Company and the Issuer to inform themselves about, to identify and to observe any such restrictions. For further details of restrictions concerned, see chapter 10 - "Offering restrictions".

### **3.4 Documents available on display**

The following documents, both the original Dutch versions and the English translations, are available on display, and can be inspected at the office of the Company:

1. the articles of association of the Issuer;
2. the articles of association of the Company;
3. the terms and conditions of the administration.

The English versions have been translated as accurately as possible from the original Dutch texts, but do not constitute certified translations, and are provided for information only. The Dutch versions of the two instances of articles of association (in Dutch: "statuten"), and of the terms and conditions of the administration (in Dutch: "administratievoorwaarden"), constitute the official versions, which have been executed before the notary public, and these versions are legally binding.

The Company will provide, without charge, to each person to whom a copy of this prospectus has been delivered, upon oral or written request, a copy of any or all of these documents. Respective requests should be directed to the Company, preferably by email, otherwise in oral or written form to the registered office of the Company, by using the address information provided elsewhere in this prospectus, see chapter 17 - "Relevant addresses".

These documents are also readily available in pdf format for download at the Company web site ([www.convectron.eu/documents](http://www.convectron.eu/documents)).

### **3.5 Updates of or supplements to the prospectus**

If an update of or a supplement to the prospectus is published, this will be announced at the Company web site, where the update or supplement will also be made available in pdf format for download. This may especially happen when during the issue the offering is extended to include additional countries. For the availability of copies the same procedure applies as indicated in the previous section for the documents available on display.

### **3.6 Use of proceeds**

The Issuer will use the proceeds from the offering of the depository receipts entirely for the purchase of shares in the Company. The Issuer will pay to the Company €100.00 per share of €0.10 par value. The total amount of the proceeds depends on the number of depository receipts sold, with a maximum of €2,499,900.00. The costs involved with the issue of the depository receipts, including the costs of the publicity campaign and the costs of the Issuer, will be borne by the Company, and be financed from the proceeds of the offering.

The offering is intended for financing the initial research, development and demonstration activities of the Company, and especially also the publicity campaign to create public awareness of the offer and the Project, in view of the intended follow-up issue (anticipated to comprise 375,000 depository receipts at the same fixed issue price) for financing the complete Project budget.

The Company will allocate and use a minimum of 90% of the proceeds of the combined value of the current issue and the intended follow-up issue for executing the "Research, development and demonstration plan" (see chapter 12), for developing a small-scale, continuously operating nuclear fusion reactor based on its boson model for self-supported fireballs. A maximum of 10% will be allocated to cover issue costs, costs of the publicity campaign and costs of the Issuer. Issue costs may include commissions to resellers, although no agreements with resellers exist or are foreseen at the date of publication of the prospectus. Of the current is-

sue, a substantially larger share of the proceeds will be used to finance the costs of the issue, especially of the publicity campaign. This arrangement implies additional risk for the investors.

In order to account for a proper use of funds, the Company will publish, during the full-time research and development phase, within one month of every quarter, a report certified by its statutory auditor, concerning the use of funds in the past quarter. These reports will be published at and be available for download from the Company web site ([www.convectron.eu/documents](http://www.convectron.eu/documents)).

### **3.7 Miscellaneous**

The terms "EUR" or "euro", and the symbol € in this prospectus refer to the single currency shared by (currently) 16 of the Member States of the European Union, which is the currency of The Netherlands.

## 4 Background, history and continuation

### 4.1 Energy from nuclear fusion

The Sun and the stars derive their energy from nuclear fusion. By this process atomic nuclei of light elements merge into nuclei of heavier elements. A small amount of mass disappears (the mass defect) and is transformed into energy according to Einstein's formula  $E = mc^2$ . Such reactions give the hydrogen bomb its explosive power. Already since the 1950s, ongoing research tries to harness the power of nuclear fusion reactions for large-scale civil energy production. Nuclear fusion is the opposite of nuclear fission. Fission of heavy nuclei as from uranium into lighter nuclei also converts mass into energy. Fission processes used in present-day nuclear reactors have two major disadvantages. Operational fission reactors degrade nuclear fuel into highly radioactive waste products with lifetime measured in centuries. And in the past chain reactions in power plants have run out of control with disastrous consequences. Nuclear fusion does not have these drawbacks, but history has refuted initial optimism in the 1960s and 1970s on the prospects of nuclear fusion processes for useful energy production. In the past fifty years, multi-billion dollar budgets and thousands of man years were spent on various reactor concepts, based on magnetic and inertial research schemes, yet without success. Further development of these concepts is still fraught with many uncertainties, and commercial exploitation is currently not expected before 2040, a time horizon of some 30 years that has been remarkably constant over the past decades.

### 4.2 The natural nuclear fusion reactor

As elusive natural phenomenon, ball lightning has resisted physical explanations for more than two centuries. Usually these luminous spheres appear during thunderstorms, and last several seconds. But some well-documented events lived longer than one minute, ionised ambient air and released energy at calorimetric levels. Clearly, their self-confinement, long lifetime and energetic output violate basic laws of classical physics. The boson model for ball lightning of Dutch astrophysicist Dr Dijkhuis treats ball lightning as sponge-like plasma threaded by hollow vortex filaments circulating at the quantum limit. Their bosonic core traps electrons and accelerates co-rotating ions to high energies due to large ion-electron mass ratios. Moist air contains sufficient deuterium for fuelling fusion processes extending lifetimes of high-energy ball lightning. Double haloes sometimes seen around ball lightning then visualise two types of charged particles emitted by deuterium fusion. On board of submarines, man-made fireballs similar to ball lightning have appeared upon interruption of battery-driven short-circuit currents comparable with lightning currents.

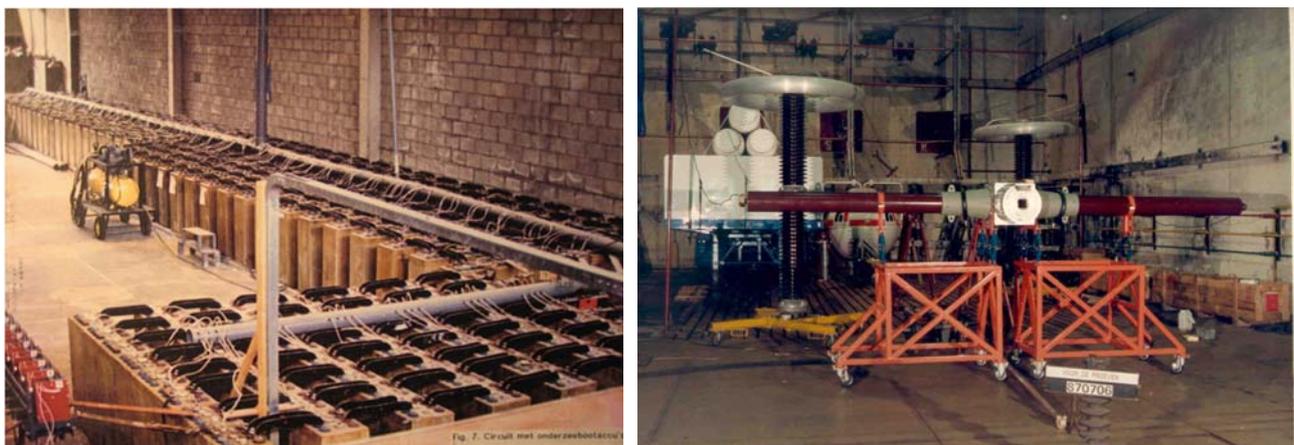


Figure 1 - Left: Submarine battery-powered short-circuit test facility operated by the Predecessor at Rotterdam Waalhaven (1984/87) - Right: Laval nozzle facility for its high-voltage breakdown tests at KEMA High-Power Laboratory (1986/87)

### 4.3 History

In 1980 *Nature* published the first journal article on ball lightning by Dr Dijkhuis, as put on record by *The New York Times* of 25 March 1980 in its *Science Watch* columns. In 1983 the Dutch public limited company Convectoron N.V. (the "Predecessor") was founded, holding proprietary rights of patent applications on fusion energy from bosonic plasmoids. Two public share issues met with fierce opposition from certain Dutch scientific circles ridiculing any small-scale, low-budget shortcut to controlled fusion. But favour found with concerned media, industry, local government and private investors enabled partial funding of two test programs for prototype demonstration of the Convectoron fusion reactor concept. During 1984-85, the Predecessor installed the submarine propulsion battery shown in Figure 1, left photo, for fireball tests by interruption of short-circuit currents. A high-speed film camera recorded fireball generation which was broadcasted nationally and worldwide in TV documentaries on ball lightning. During 1986-87, the Predecessor built the Laval nozzle facility shown in Figure 1, right photo, for detection of deuterium fusion in supersonic flow under high-voltage breakdown conditions. The third of three test sessions at KEMA High-Power Laboratory in Arnhem, The Netherlands recorded neutron counts as from deuterium fusion. At the end of their constrained budgets both test programs had shown promise but no definitive answers, and the Predecessor went into a dormant state. Patents with annual fees were abandoned, others expired over time. The Predecessor was dissolved by decision of a general meeting held on 8 October 2009.

### 4.4 Progress and motivation for the issue

In 1988, shortly after the KEMA test series, a Japanese initiative invited Dr Dijkhuis to Tokyo for the first International Symposium on Ball Lightning (ISBL). In two decades, its bi-annual repeats convened on three continents, combining data banks, sifting models and weighing laboratory reproduction efforts. For 2010, Russia will host the 11th symposium, integrated in atmospheric science and combustion chemistry meetings. Independently, the International Union of Radio Science (URSI) and the International Committee on Heat and Mass Transfer (ICHMT) also included sessions on ball lightning in their symposia. Their proceedings document steady progress of fireball modelling from underlying concepts, which the boson model shares with electric phenomena in our stratosphere. While the test facilities of the Predecessor were mothballed, the model calculations prospered by rapid growth in PC-level computing power and software capabilities.

In 1995, after a Dutch TV broadcast on Convectoron activities, a spectator communicated his first-hand experience with high-voltage fireball generation occurring repeatedly in a 1960s laser test facility. This new ignition method will be a primary focus of the research and development activities ahead. It is also the basis for a new patent application, which is in preparation and is expected to be submitted in 2010. Recent results connect the Convectoron model mathematically with ongoing design and tests of photonic materials inside waveguides for microwaves. In particular, the mathematical framework of the Convectoron model now also enables useful suggestions to related disciplines including cloaking techniques (making structures invisible to radar systems) and Cherenkov radiation (for diagnostic tests of new photonic materials). Together these developments firmly ground the Convectoron fusion reactor concept in established gas dynamic and microwave technologies, as well as in emerging technologies for the fields of left-handed materials (which have negative permittivity and permeability, and thereby a negative refractive index) and photonics (which combines different fields of science, including in particular optics, laser technology and electronics, for the generation, manipulation and use of light for a wide variety of applications; a well-know application is data transmission via light beams through optical fibres).

Given the present significantly progressed and rather mature state of the Convectoron model, which now has developed to a full and rigorous mathematical description, the founders of the Predecessor and originators of the original activities carried out in the 1980s consider the moment to have come to call upon the capital market again, in order to raise adequate funds for procuring a better financial basis than in the past, for financing a series of research, development and demonstration activities that have the potential to lead to a definitive proof of principle, to the development of a small-scale industrial nuclear fusion reactor, based on a concept that has been demonstrated in nature, and to related intellectual property rights.

#### **4.5 Continuation in a new legal entity**

For this, a new legal entity has been created, Convectron Natural Fusion N.V. (the "Company"), which warrants the rights both of the founders and of the original investors in class B shares of the Predecessor, and provides in addition the opportunity for new investments and participation in this concept with a high potential for future large-scale energy production based on nuclear fusion of abundant deuterium.

All existing know-how and rights concerning the concept have been transferred by the founders to the Stichting Administratiekantoor Vortex ("Vortex"), a shareholding trust foundation controlled by the founders, and have subsequently been sold by Vortex to the Company (see chapter 14 for details of this transaction). These rights include the rights to the forthcoming new patent application, and possible related subsequent applications.

The activities to be carried out within the Company are described in the "Research, development and demonstration plan", which is presented in chapter 12.

#### **4.6 Arrangement concerning the holders of class B shares in the Predecessor**

Prior to the creation of the Company, the shareholders of the Predecessor, Convectron N.V., which was incorporated on 4 March 1983, have resolved, in an extraordinary general meeting, which was held on 8 October 2009 in Utrecht, The Netherlands, on its dissolution. Any existing rights concerning the concept and the Predecessor have been transferred to the founders and members of the Management Board of the Predecessor.

As compensation for their investment in the Predecessor, a regulation has been established, which offers the previous investors in class B bearer shares in the capital of the Predecessor the possibility to register their original share certificates with the Issuer for a future exchange for class A shares in the Company. The regulation concerns the right to exchange NLG 1.00 (one Dutch guilder) par value in original certificates of class B bearer shares in the Predecessor into one class A registered share of €0.10 (ten eurocents) par value in the Company. For further details, see section 16.4 - "Share exchange regulation previous investors".

## 5 Description of the Issuer

### 5.1 Legal aspects, seat, address and role

The Stichting Administratiekantoor Convectoron Natural Fusion (in English: "Foundation Shareholding Trust Convectoron Natural Fusion"; the "Issuer") is a foundation (in Dutch: "stichting") according to Dutch law, incorporated in The Netherlands by memorandum of 4 January 2010, executed before notary public K.H.J. Flink in Utrecht, The Netherlands. The Issuer has its statutory seat in Rotterdam, The Netherlands, and is registered in the company register at the Chamber of Commerce under number 24482164. The Issuer has its registered office at the registered office of the Company (Wilhelminakade 965, 3072 AP Rotterdam, The Netherlands). The Issuer can be contacted by telephone through the telephone number of the Company (+31.10.496.3615). The original version in Dutch of the articles of association (in Dutch: "statuten") of the foundation, which are legally binding, as well as a translation into English, are available on display at the office of the Company for inspection, and also for download from the Company web site (see section 3.4 - "Documents available on display"). The English version of the articles of association have been translated as accurately as possible from the original Dutch text, but do not constitute a certified translation, and are provided for information only. A decision to amend the articles of association requires a prior approval of the meeting of depository receipt holders. The Issuer was founded by Messrs Dr G.C. Dijkhuis and K.W. Wevers, who also constitute the Management Committee.

The Issuer is a shareholding trust (in Dutch: "administratiekantoor"). Its role is to act as the Issuer of the depository receipts in respect of at most 400,000 shares of class B in the capital of the Company, to acquire the underlying shares, and to act as the depository of these shares. A register of holders of depository receipts will be kept and maintained by the Company on behalf and under supervision of the Issuer. For each issued depository receipt, the Company will issue one share of class B to the Issuer. An additional role of the Issuer is the execution and administration of the "Share exchange regulation previous investors" (see section 16.4 for details).

### 5.2 Objective

The objective of the Issuer, as formulated in the articles of association of the foundation, article 2, is as follows (as accurately as possible translated into English, the original Dutch text is legally binding):

1. The foundation has the following objective:
  - a. the acquisition, administration and conveyance of shares of class A and/or class B, hereinafter referred to as: the shares, in the capital of the public limited company with statutory seat in Rotterdam: Convectoron Natural Fusion N.V., hereinafter referred to as the company;
  - b. the grant of (rights to) depository receipts in respect of acquired shares;
  - c. the exercise (in the framework of the administration) of all possible rights that are attached to the (administered) shares, such as:
    - the receipt of all possible payments;
    - the exercise of the right to vote;
    - the exercise of pre-emptive rights attached to the shares;
  - d. to let the depository receipt holders without delay receive their share in the proceeds of the administered shares for which depository receipts have been assigned.
2. In exercising the rights attached to the shares, the foundation is primarily guided by the interests of the holders of the depository receipts, issued by the foundation in respect of the shares, while taking into account the interests of the company, of the enterprise attached to the company, and of all those involved.
3. The foundation is entitled, according to conditions and terms included in the terms and conditions of the administration, to provide a mandate to the depository receipt holders to exercise the right to vote attached to the shares against which the depository receipts have been issued, in which case the depository receipt holders concerned are free to determine the way in which they will vote.
4. The foundation is authorised to resolve to and implement partial or complete exchange of the depository receipts for the underlying shares. In addition, the foundation is authorised, exclusively in implementation

of a resolution to that effect of the meeting of depository receipt holders:

- a. to exchange all administered registered shares, or a part of these shares, for bearer shares, and vice versa;
  - b. to convey all administered shares, in registered or bearer form, or a part of these shares, provided that the proceeds of this are immediately paid out to the qualifying depository receipt holders, in exchange for their depository receipts.
5. The foundation will in the best possible way administer, on behalf of the depository receipt holders, the dividends that have been received on the administered shares and have been made payable by the foundation, as well as other proceeds.

### **5.3 Terms and conditions of the administration**

The terms and conditions of the administration (in Dutch: "administratievoorwaarden") establish the rights and obligations of the Issuer and the depository receipt holders with respect to the administered shares and the depository receipts issued in respect of these shares. These terms and conditions are included in a separate notarial act. A decision to amend the terms and conditions requires a prior approval of the meeting of depository receipt holders. The original version in Dutch of the terms and conditions of the administration (in Dutch: "administratievoorwaarden"), which are legally binding, as well as a translation into English, are available on display at the office of the Company for inspection, and also for download from the Company web site (see section 3.4 - "Documents available on display"). The English version of the terms and conditions of the administration have been translated as accurately as possible from the original Dutch text, but do not constitute a certified translation, and are provided for information only. A decision to amend the terms and conditions of the administration requires a prior approval of the meeting of depository receipt holders.

### **5.4 The Management Committee**

Currently the Management Committee is constituted as follows:

- K.W. Wevers, chairman and treasurer. Citizen of The Netherlands. Term of appointment: permanent. Managing director of the Company. For further personal details, see chapter 7 - "Personal details of the management";
- Dr G.C. Dijkhuis, secretary. Citizen of The Netherlands. Term of appointment: permanent. Managing director of the Company. For further personal details, see chapter 7 - "Personal details of the management".

Members of the Management Committee are appointed by cooptation. The term of appointment is permanent, unless determined otherwise in the appointment resolution. The members of the Management Committee receive no remuneration for their activities for the Issuer; their expenses for the Issuer will be reimbursable on presentation of a detailed account. No service contracts exist of the members of the Management Committee with the Issuer providing for benefits upon termination of employment. The Issuer is not aware of any potential conflicts between any duties of any member the Management Committee to the Issuer, and his private interest and/or other duties.

## 6 Description of the Company

### 6.1 Legal aspects, seat, address and role

Convector Natural Fusion N.V. (the "Company") is a public limited company (in Dutch: "naamloze vennootschap") according to Dutch law, incorporated in The Netherlands by memorandum of 4 January 2010, executed before notary public K.H.J. Flink in Utrecht, The Netherlands. The Company has its statutory seat in Rotterdam, The Netherlands, and is registered in the company register at the Chamber of Commerce, under number 24482448. The registered office of the Issuer is at Wilhelminakade 965, 3072 AP Rotterdam, The Netherlands. The telephone number is +31.10.496.3615. The original version in Dutch of the articles of association (in Dutch: "statuten") of the Company, which are legally binding, as well as a translation into English, are available on display at the office of the Company for inspection, and also for download from the Company web site (see section 3.4 - "Documents available on display"). The English version of the articles of association have been translated as accurately as possible from the original Dutch text, but do not constitute a certified translation, and are provided for information only. The Company was founded by Messrs Dr G.C. Dijkhuis and K.W. Wevers, who also constitute the Management Board. The Company plans to use the following trade names: Convector, Convector Natural Fusion, Convector Nuclear Fusion.

The role of the Company is: (1) to raise sufficient capital from investors for financing its "Research, development and demonstration plan", as described in chapter 12; (2) to carry out this plan. The planned activities are a continuation of the research and development activities that were previously carried out in the public limited company Convector N.V., which was dissolved on 8 October 2009. These activities concern the boson model for ball lightning and the concept of a small-scale nuclear fusion reactor that is based on the related insights, and will make use of artificially created high-energy plasmoids that are analogous to the natural phenomenon.

### 6.2 Objective

The objective of the Company, as formulated in the articles of association of the Company, article 2, is as follows (as accurately as possible translated into English, the original Dutch text is legally binding):

The company has the following objective:

1. the development, production, commercialisation and exploitation of small-scale nuclear fusion reactors and other systems in the field of energy technology, the execution of the research required for that purpose, and the procurement of related relevant intellectual property rights;
2. the participation in, and the management and financing of other enterprises, of whatever nature;
3. as well as anything that, in the broadest sense, is related or may be beneficial to the foregoing.

### 6.3 Capital and shares

The Company has an authorised capital of €225,000.00, divided in ordinary shares of par value €0.10 per share, of which 1,850,000 of class A and 400,000 of class B. According to its articles of association, the Company can only issue registered shares. The Company keeps a register of holders of registered shares, according to the legal requirements. The shares have been created under the laws of The Netherlands. At the date of publication of this prospectus, the outstanding shares amount to €104,000, consisting of 1,040,000 class A shares, held by the Stichting Administratiekantoor Vortex ("Vortex"), a shareholding trust foundation controlled by the founders, and acquired at par value. Of the class A shares held by Vortex, a block of 40,000 shares is reserved for implementation of the "Share exchange regulation previous investors", and made available for this purpose to the Issuer, which implements and administers the regulation (see section 16.4 for details).

### 6.4 The Management Board

The Company is managed by a Management Board consisting of one or more managing directors. The man-

aging directors are appointed, suspended and dismissed by the general meeting. Currently, the Company has two managing directors, Messrs Dr G.C. Dijkhuis and K.W. Wevers.

No service contracts exist of the members of the Management Board with the Company providing for benefits upon termination of employment. The Company is not aware of any potential conflicts between any duties of any member the Management Board to the Company, and his private interest and/or other duties.

### **6.5 Remuneration of the Management Board**

No remuneration will be paid to the members of the Management Board before the start of the full-time research and development activities. These are expected to start only during the intended follow-up issue. Following the start of the full-time research and development activities, a yearly remuneration of €132,000 will be paid to each of the managing directors. In case and as long as the research and development activities are limited due to synchronisation with the available budget (as indicated in section 9.5 - "Subscription period, start of activities and procedure upon partial subscription"), the remuneration will be limited to a proportion of the indicated amount that is equal to the proportion of the available budget for Phase 1 of the Project, counted from the start of the Project, and the planned budget for Phase 1 (see chapter 12 - "Research, development and demonstration plan").

### **6.6 General meetings**

General meetings are held in Rotterdam, Den Haag, Amsterdam or Utrecht, and called by the Management Board not later than the fifteenth day before the day of the meeting. The call is directed to shareholders and depository receipt holders. The call is preferably done by a readable and reproducible message sent by electronic means (email), to each shareholder and depository receipt holder who agrees to this, to the address that he has given notice of for this purpose to the Company, otherwise by a letter sent by regular mail. The call will state the topics that will be discussed. The shares of class A and class B are equal in terms of voting rights, to each share the right to one vote is attached. This implies that no major shareholder has different voting rights.

### **6.7 Requirement for change of the articles of association**

A change of the articles of association requires a majority of at least three fourth of the legitimately cast votes in a general meeting in which at least two thirds of the issued capital is present or represented. This condition is more significant than is required by law.

### **6.8 Provisions in the articles of association with respect to the Management Board**

The following articles of the articles of association comprise the provisions with respect to the Management Board, concerning its management role and duties, its constitution, suspension of a managing director by the general meeting, and representation of the company. No provision concerning appointment of managing directors is included. According to the Dutch Civil Code, managing directors are appointed by the general meeting (and for the first time by the memorandum of association). The English text is translated as accurately as possible from the original Dutch text. The Dutch version of the articles of association is legally binding.

#### ***Article 9 - Management board***

1. The company is managed by a management board, consisting of one or more managing directors.
2. The management board may establish a by-law governing the allocation of its duties.
3. The management board resolves with an absolute majority of votes. A resolution shall be taken only if all managing directors are present or represented at the meeting. A managing director may have himself represented at a meeting by another managing director. Each managing director shall have one vote. If in a tie vote no solution can be found, a decision may be submitted to the general meeting.

4. The management board may also resolve (in writing) without a meeting, provided that all managing directors have submitted in writing their vote with respect to the proposal. The votes can also be cast electronically.
5. The general meeting may resolve that resolutions of the management board need to be submitted to the general meeting for its approval, provided that the decisions concerned have been accurately defined and notified in writing to the management board.
6. In the event of the absence or inability to act of a managing director, the remaining managing directors shall be in charge of the management, whereas in the event of the absence or inability to act of all the managing directors, a person designated for this purpose by the general meeting shall be provisionally in charge of the management.

#### ***Article 10 - Managing directors; suspension***

1. The general meeting determines the number of managing directors. A legal person may be appointed as a managing director. The general meeting may assign to one or more of the managing directors the title general managing director or any other title.
2. The suspension of a managing director shall not exceed two months, unless the general meeting before the expiration of that period has resolved to extend the period once-only with no more than two months. The suspended managing director shall be given the opportunity to give account in the general meeting and to have the assistance of a lawyer for this. If the general meeting does not resolve to dismiss a suspended managing director or if a suspension period is not extended in time, the suspension expires.

#### ***Article 11 - Representation***

1. If the management board consists of two or more managing directors, the company can only be represented either by the management board, or by a general managing director alone, or by two jointly acting managing directors. If only one managing director is in office, the company is represented by that managing director.
2. If a managing director privately or in his capacity as managing director has a conflict of interest with the company, he may nonetheless represent the company, unless the general meeting has designated one or more other persons to represent the company in the case concerned. A decision of the management board, which concerns such a conflict of interest, requires the prior approval of the general meeting.

### **6.9 Core activity, strategic objective and business plan**

At present, the Company has one core activity and one strategic objective: the development of a steady-state nuclear fusion reactor of modest size utilising self-supported atmospheric fireballs also known as ball lightning. The Company models ball lightning and observed submarine battery short-circuit analogues by charged boson states linking observations of long lifetimes, high energy content, coloured envelopes and ionising radiation to nuclear fusion of atmospheric deuterium. The proposed research, development and demonstration project pursues fireball ignition at standard atmospheric conditions by photonics technology without costly cryogenic confinement magnets and vacuum pump systems. The Company combines advanced fireball modelling with hands-on experience gained from two test facilities designed and operated in the 1980s. Scale rules specify electric discharge and shear flow regimes for electron condensation into bosonic vortex cores circulating at the quantum limit. Uniform co-circulation of ambient plasma carries light nuclei into their fusion regime. New apparatus with wire-based electrodes will replace erosive contacts as were used for battery-powered tests in Rotterdam Waalhaven, The Netherlands. Photonic response will enable fireball ignition without erosive damage, using high-voltage discharge driven by capacitor banks operational at KEMA High-Power Laboratory in Arnhem, The Netherlands. A standard mixing unit for fuel and carrier gas will control Convectron reactor output.

Validation of the concept and successful completion of the project will open global markets for the Convectron natural fusion reactor as a safe and sustainable source of primary energy. It will foster sustainable growth of the global economy, resolve major environmental impacts of ongoing fossil fuel consumption, stabilise the world market for fossil fuels, and preserve fossil fuels for alternative future use. The fact that existing magnetic and inertial research schemes for establishing nuclear fusion as a future power source have

shown shifting and rather constant time horizons of some thirty years, and have used and will continue to use multi-billion dollar budgets, indicates that validation of the Convectron concept has the potential to bring considerable value to the Company. In the future this value can be procured in different ways, i.e. by providing licences, by production and sales of small-scale nuclear fusion reactors, even by operation of small-scale power plants based on the system, or by a combination of these options. At this stage it is not feasible to make any precise statement concerning these activities, and concerning the possible future profitability of the Company. The current business plan is limited to, and reflected in the Research, development and demonstration plan, as described in chapter 12.

The business plan of the Company is highly sensitive to variations in a set of major technical assumptions. These assumptions, which are directly connected with the Project milestones as described in section 12.2 - "Duration and milestones", have a Boolean character: they are correct or they are incorrect (a yes or no situation). If all assumptions are correct, the intended product will be feasible. If any of the assumptions appears to be incorrect, the intended product will not be feasible. The technical assumptions concern, in consecutive order: correctness of the model and the ability to realise a proof of concept, i.e. to demonstrate the feasibility of reproducible fireball generation in free air igniting natural fusion reactions; feasibility of power increase and energy break-even of fireballs suspended in fuel-rich gas mixtures; and feasibility of further power increase and continuous operation of commercial reactor prototypes at calorimetric power levels. In addition to the technical assumptions, there are two major non-Boolean financial assumptions: the correctness of the budget for the Project; and the degree of success of the issue. If the budget appears to be grossly underestimated and/or if the combined amount of the acquired funds from the current issue and the intended follow-up issue is substantially lower than the target amount, the funds may appear to be insufficient to follow through the set of experiments that are needed to demonstrate the correctness of the technical assumptions, even if they are correct. The higher the underestimation of the budget and/or the lower the amount of acquired funds, the larger this risk.

## 6.10 Other information

For its activities, the Company is dependent on its member of the Management Board Dr G.C. Dijkhuis, as he is the originator of the Convectron model, on which the concept for a small-scale nuclear fusion reactor is based. Furthermore, the Company is dependent on both members of the Management Board, Messrs Dr G.C. Dijkhuis and K.W. Wevers, as key technical staff, for their expertise and experience gained in establishing and operating the experiments of the Predecessor in the 1980s (for details, see section 12.4 - "Relevant expertise and experience of the key technical staff").

As a comparable product is not yet available, there are currently no market competitors. Given the size of the potential market, it can be expected that, once the validity of the concept has been established, market competition will arise. The future patent position of the Company (see chapter 13 - "Protection of know-how") will, via licencing, be an important determinant for the future profitability of the Company, especially if competitors will enter or try to enter the market.

As the Company has been founded recently, and as yet has to start its research and development activities, it has not yet established its network of suppliers. In creating this, the Company will try to build on relationships and cooperation that existed in the past in the Predecessor (see section 12.4 - "Relevant expertise and experience of the key technical staff"). Ongoing contacts of the members of the Management Board with several suppliers of the past to the Predecessor do exist. Most critical is the supply of high-power facility services, as the number of such facilities is rather limited. Preliminary exploratory discussions have been held in recent years with the management of a small-scale facility at the Technical University of Delft, and with the management of the KEMA High-Power Laboratory, both in The Netherlands. Access to high-power facility services is essential for the intended research and development activities. An attractive alternative to the use of these facilities, which is under consideration, and which is covered by the current budget, is construction of a proprietary high-power facility, although licence procedures may hamper such approach. Other supplier relationships are less critical.

## **7 Characteristics of the depository receipts and the underlying shares**

### **7.1 Depository receipts - mechanism, rationale and exchange**

Depository receipts provide a mechanism to separate the voting rights and the economic ownership of shares. The shares are issued to a shareholding trust, generally a foundation, which in turn issues to the investor a depository receipt in respect of each underlying share. The shareholding trust holds and administers the shares, and exercises the voting rights attached to the shares. The depository receipt represents the economic rights that are attached to the share (the rights to any revenues), as well as the right to acquire the underlying share once the depository scheme will be cancelled, and the depository receipts will be exchanged for the shares (conversion).

The main reason to adopt the mechanism of depository receipts for this phase of the activities is that it permits a simpler administrative procedure. For this, in the first place, the choice was made to issue registered shares in the capital of the Company, and not bearer shares. However, each issue of registered shares to a shareholder requires, according to the Dutch Civil Code, a notarial act between the parties involved, while, conversely, each issue of registered depository receipts only requires a private act between the parties involved. In the chosen structure, notarial acts for the issue of shares by the Company to the Issuer still need to be made, but the parties involved are each time only the Company and the Issuer, and the issues can be made in larger blocks, requiring only one notarial act per block. In this particular case, the voting rights will not be exercised by the Issuer, and be granted in principle per general meeting to the depository receipt holders who so request, unless there are compelling reasons not to do so.

Only the Management Committee of the Issuer can take a decision concerning exchange of the depository receipts for the underlying shares. It will take such decision in close cooperation with, and only upon request of the Company. The structure with the depository receipts is a temporary one, which will be abandoned as soon as the "Research, development and demonstration plan" (see chapter 12) will have been successfully completed. For details concerning a possible future conversion, see section 7.5 - "Conversion of depository receipts into bearer shares", below.

### **7.2 Characteristics of and rights attached to the depository receipts**

This section provides details concerning important characteristics of the depository receipts issued, and some important rights of the depository receipt holders. For full details concerning these and other rights, the articles of association of the foundation, and the terms and conditions of the administration shall be consulted.

The depository receipts will be created under and in accordance with Dutch law, are denominated in euro, and will be issued under Dutch law. The Issuer will issue one depository receipt in respect of each share of class B. The rights attached to the depository receipts include, inter alia, the rights to dividends, liquidation payments and payments from the share premium reserve attached to the class B shares, made payable on the depository receipts. The rights also include the right to exercise any pre-emptive right attached to the shares in offers for subscription of shares. The depository receipts are in registered form; depository receipts are registered in the name of the depository receipt holder in the register of depository receipts, which is kept by the Company, on behalf and under supervision of the Issuer. No certificates will be issued. Ownership of the depository receipts is freely transferable, at an administrative cost of €20.00 per transfer transaction.

The depository receipts are issued with cooperation of the Company. In consequence, the depository receipt holders are entitled to exercise the rights assigned by law (the Dutch Civil Code) to holders of depository receipts that are issued with cooperation of a company. These rights include the right to be called for the general meeting, to attend the general meeting and to speak at the general meeting, and the right to receive a copy of the annual statement of accounts for inspection, but not the right to vote at the general meeting. The Issuer holds the voting rights of the underlying shares. However, according to the terms and conditions of the administration: (1) the Issuer will enable the depository receipt holders who so request, by a mandate granted by the Issuer, valid for a specific general meeting, to exercise the voting rights attached to the shares, in

which case the depository receipt holders will be free to determine the way in which they will vote; (2) the Issuer will not be entitled to exercise the voting right for the shares for which no mandate will have been granted; (3) the Issuer can restrict or exclude such mandate if exercise of the voting right by the depository receipt holder is contrary to important interests of the Company, the enterprise connected to it, and all those involved.

Convertibility of the depository receipts is restricted. Only the Management Committee of the Issuer can take a decision concerning exchange of the depository receipts for the underlying shares. It will take such decision in close cooperation with, and only upon explicit request of the Management Board of the Company. The structure with the depository receipts is a temporary one, which is likely to be abandoned as soon as the "Research, development and demonstration plan" (see chapter 12) will have been successfully completed. For details concerning a possible future conversion, see section 7.5 - "Conversion of depository receipts into bearer shares", below.

### **7.3 Meetings of depository receipt holders**

Meetings of depository receipt holders are held whenever deemed necessary by the Management Committee, as well as following a written request of one or more depository receipt holders, representing one tenth of the depository receipts issued by the Issuer, stating which subjects need to be discussed. In a meeting of depository receipt holders, to each depository receipt the right to one vote is attached, and decisions are taken with an absolute majority of votes.

### **7.4 Characteristics of and rights attached to the shares**

The underlying shares are class B shares in the capital of the Company. The shares have been created under and in accordance with Dutch law, are denominated in euro, and will be issued under Dutch law. The shares are in registered form. Issued shares will be registered, in the name of the holder, in the register of shares, which will be kept by the Company. No certificates will be issued. Ownership of the shares is freely transferable. The rights attached to the shares include, inter alia, the rights to dividends, liquidation payments and payments from the share premium reserve attached to the shares, made payable on the shares. Each share gives the right to cast one vote at the general meeting. Pre-emptive rights are attached to the shares in offers for subscription of shares, irrespective of the class of shares. The general meeting holds the right to determine the allocation of profits. For details concerning general meetings, see section 6.6 - "General meetings". For practical reasons, new underlying shares for the issue of depository receipts will be created periodically en bloc after the issue of the depository receipts concerned; the maximum size of the period will be one month. In order to save on notarial charges, this period can be extended if in the period concerned less than two hundred and fifty depository receipts have been issued, until this number has been reached. According to the articles of association of the Company, the Management Board is solely designated, for a period of five years from the date of incorporation, to adopt a resolution concerning issue of new shares (article 24).

### **7.5 Conversion of depository receipts into bearer shares**

Dependent on the circumstances, the Company may launch a next (fourth) share issue in the case of and following a future successful completion of the activities as described in the "Research, development and demonstration plan" (see chapter 12), for financing commercialisation of the results of the activities. In that case the Company may: (1) propose to the general meeting to adopt a resolution to convert the registered shares into bearer shares (this will require a change of the articles of association of the Company); (2) propose to the Issuer to end the scheme of the depository receipts, and to exchange the depository receipts for the underlying shares, then in bearer form; and (3) apply for admission to trading with a view to the distribution of the shares in a regulated market or other equivalent markets.

### **7.6 Entitlement to and future supplementation of the class B share premium reserve**

The holders of class B shares remain solely entitled to the share premium reserve paid on the depository receipts issued in respect of these shares. If the activities of the Company will have lead to the intended suc-

cess, a next share issue (of class A shares) is likely to be launched for financing commercialisation of the results of the activities, and dependent on the circumstances, part of the proceeds of this issue may be used to supplement the share premium reserve to its original size. Alternatively, the reserve may be supplemented from future revenues. As soon as the reserve will have been supplemented to its original size, it will be placed at the disposal of the holders of class B shares for payment. Once this payment is effectuated, the distinction between class A and class B shares may be lifted.

### **7.7 Reimbursement of remaining funds after an unsuccessful end of the activities**

If and as soon as the results of the research and development activities would clearly indicate that the intended result cannot be achieved, the Management Board will propose to the general meeting to stop the activities, and to dissolve the Company. In such scenario all funds remaining after deducting all actual costs incurred by the Company and the Issuer, including the operational costs, the costs of the issue and the publicity campaign, the costs of the research and development activities performed, and the costs of the dissolution of the Company and the Issuer, will be available for partial and proportional reimbursement of the investors in the depository receipts. Mutatis mutandis this also applies for scenario 2 upon limited success of the current issue at the end of the subscription period of one year (see section 9.5 - "Subscription period, start of activities and procedure upon partial subscription").

### **7.8 Dividend rights and dividend policy**

According to the articles of association of the Company, the general meeting resolves on any payment from the earnings of the Company, and on the date on which the related entitlement arises. According to the Dutch Civil Code (book 3, article 308), an entitlement to payment of dividends by the Company expires after a lapse of five years following the day on which the entitlement arose. The same applies to the entitlement of a depository receipt holder to payment of dividends by the Issuer (the shareholder).

The Company has not formulated a dividend policy. As stated in section 3.6 - "Use of proceeds", the Company will use the anticipated combined proceeds of the current (second) issue and the intended follow-up (third) issue for financing the intended research, development and demonstration activities, and the costs of operating the Company and the Issuer (a minimum of 90%), and for covering issue costs (a maximum of 10%), while practically spoken the proceeds of these issues will be the only financial assets of the Company. Before a successful conclusion of the research, development and demonstration activities, the Company will not have a marketable product or service, and will therefore not make any profits. For this reason it is not meaningful to have a dividend policy at this stage.

## 8 Personal details of the management

Messrs Dr G.C. Dijkhuis and K.W. Wevers together constitute both the Management Board of the Company, and the Management Committee of the Issuer. This chapter provides their relevant personal details.

### Dr G.C. Dijkhuis

#### *Degrees*

- Master of Science, Applied Physics, Delft University of Technology, The Netherlands (1968);
- Master of Science, Applied Physics, Stanford University (1970);
- PhD, Applied Physics, Stanford University (1973);
- Diploma Course, Numerical Fluid Dynamics, Von Karman Institute for Fluid Dynamics, Brussels (1977); awarded with the Belgian Government Prize;
- Radiation Expert A, Dutch Ministry of Public Health and Environment (1981).

#### *Publications*

See the bibliography in chapter 19.

#### *Main activities*

- teacher of mathematics and physics, Zeldenrust College, Terneuzen, The Netherlands (1974-1977 and 1978-2005);
- one year on leave for Diploma Course at Von Karman Institute (1977-1978);
- co-founder and managing director of Convectoron N.V. (1983-2009);
- co-founder of International Committee on Ball Lightning (Secretary, 1990-2008; President, 2008-present);
- member of the City Council of Terneuzen, The Netherlands (1989-1997);
- contract research and teaching at Department of Mathematics and Computer Science, Eindhoven University of Technology, Eindhoven, The Netherlands (2001-2008);
- co-founder and managing director of Convectoron Natural Fusion N.V. (2010-present).

### K.W. Wevers

#### *Degrees*

- Master of Science, Chemistry, University of Utrecht, The Netherlands (1976);
- Bachelor of Economics, Erasmus University of Rotterdam, The Netherlands (1982);
- Radiation Expert A, Dutch Ministry of Public Health and Environment (1984).

#### *Main activities*

- initiator and co-founder of Dutch Association for Preservation of the Wadden Sea (*Waddenvereniging*) (1965);
- co-founder and managing director of Convectoron N.V. (1983-2009);
- international map provider for in-vehicle and other applications, The Netherlands, Industry Relations Europe and Government Marketing and Strategy Europe respectively (1992-present; project and business development manager; extensive involvement in international consortium research projects and standardisation); in the framework of this employment, various duties in international organisations were exercised;
- co-founder and managing director of Convectoron Natural Fusion N.V. (2010-present).

Both members of the Management Board of the Company and of the Management Committee of the Issuer were appointed by the respective memoranda of association. No expiration of the current terms of office have been determined.

None of the members of the Management Board of the Company and of the Management Committee of the Issuer has been involved in or the subject of: (1) any convictions in relation to fraudulent offences; (2) any bankruptcies, receiverships or liquidations while acting as a member of the administrative, management or supervisory bodies or partner of the companies and partnerships involved; (3) any official public incrimination and/or sanctions by statutory or regulatory authorities, or disqualification by a court from acting as a member of the administrative, management or supervisory bodies of an issuer or from acting in the manage-

ment or conduct of the affairs of any issuer. Both members of the Management Board of the Company and of the Management Committee of the Issuer have initiated and been involved in the orderly dissolution and settlement of the Predecessor.

Both members of the Management Board of the Company and of the Management Committee of the Issuer declare that they have a strong commitment towards the Company and the Issuer, and will make themselves available in the coming years on reasonable and moderate terms to provide their best possible contributions to make this endeavour as much as possible a success.

## **9 Terms and conditions of the issue, and procedure for subscription**

### **9.1 Offering and issue price**

The offering concerns 24,999 (twenty-four thousand nine hundred and ninety-nine) depository receipts in respect of new class B ordinary shares. One depository receipt corresponds to one class B share of €0.10 (ten eurocents) par value. The depository receipts are issued with cooperation of the Company, and the Issuer executes the issue in close cooperation with the Company. The interest of the existing shareholders will be diluted proportionate to the amount of issued depository receipts in respect of new class B shares. In the event of issue up to the maximum size of the current offering, the dilution will be 2.3% (after the complete issue of the intended follow-up offering, the dilution will be 27.8%). The existing shareholders refrain from exercising their pre-emptive rights.

The issue price is fixed and amounts to €100.00 (one hundred euro) per depository receipt, representing a share premium of €99.90 per share.

For each issued depository receipt, the Issuer will purchase one new ordinary class B share in the Company, at a price of €100.00 (€0.10 nominal value and €99.90 share premium).

Issued depository receipts will be registered, in the name of the holder, in the register of depository receipts, which will be kept by the Company, on behalf and under supervision of the Issuer.

Mutatis mutandis, the same offering conditions are foreseen for the intended follow-up issue of 375,000 depository receipts.

### **9.2 Subscription, purchase and allotment**

A subscription is considered to comprise: (1) registration of the subscriber (including: surname; first official given name and any further initials; current address details; date and place of birth; national identification number if available; email address (required of on-line subscription only); and telephone number (optional); (2) specification of the number of depository receipts the subscriber intends to purchase; and (3) payment of the purchase. On a completed payment, the issue of the related depository receipt(s) is considered to have been effectuated. Subscription can be done in two different ways, either (and preferably) via the Company web site, or otherwise by submitting a completed and signed paper submission form by regular mail or fax to the Issuer. A subscription cannot be withdrawn. For each issue to an investor, a private act of agreement of the transaction needs to be concluded between the Issuer and the investor. In case of an electronic subscription, via the Company web site, this act will be established electronically. Multiple subscriptions by the same investor are admitted. Subscriptions will be immediately allotted in order of the receipt of the respective payments, up to the maximum number of available depository receipts. Payments received after allotment of all available depository receipts will be returned without charge.

### **9.3 Subscription via the web site**

For subscription via the Company web site, the subscriber first needs to register by creating a personal account at the web site, at the registration page ([www.convectron.eu/registration](http://www.convectron.eu/registration)). After having done this, the investor will receive an email with a link to confirm the registration. Subsequently, after logging in, the subscription is done by: (1) indicating and confirming the number of depository receipts the investor intends to purchase; and (2) payment of the amount of the total issue price of the number of depository receipts subscribed to, either directly online by bank transfer or credit card payment, or by self-initiated bank credit transfer, or by providing a once-only direct debit mandate to the Issuer for collection from the bank account of the subscriber. Following subscription, the investor will receive an email including: (1) a notice of allotment including the number of depository receipts purchased and the total amount of the purchase; and (2) a link to the agreement to be concluded electronically. The agreement includes the numbers of the depository receipts purchased as registered in the register of depository receipts. The agreement also includes a confir-

mation button, which the investor needs to click to conclude the agreement. The agreement can be printed for personal archiving. The concluded agreement will also be available from the personal login account of the investor at the web site.

#### **9.4 Subscription by paper form submission**

Subscription by paper form is done by completing and signing a paper copy of the subscription form, which is available from the web site, and payment of the amount of the total issue price of the number of depository receipts subscribed to. Payment can be done either by self-initiated bank credit transfer, or by providing a once-only direct debit mandate to the Issuer for collection from the bank account of the subscriber. In addition, the subscriber needs to partially complete and sign two copies of the act of agreement of the issue between the Issuer and the subscriber. The subscription form and the two copies of the act need to be sent to the Issuer by regular mail. Detailed instructions as well as the address of the Issuer are provided in the form. Both the subscription form and the template of the act are available for this purpose for download at the Company web site. One copy of the agreement co-signed by the Issuer, will be sent to the subscriber by regular mail, as confirmation of the purchase. The final agreement includes the numbers of the depository receipts purchased as registered in the register of depository receipts.

#### **9.5 Subscription period, start of activities and procedure upon partial subscription**

Subscription is open from the date of publication of this prospectus, 1 August 2011, for a period of one year, or until all depository receipts will have been issued. Closure of the issue upon complete subscription will be announced at the Company web site. In addition, during the subscription period, and as long as the issue has not been fully subscribed to, intermediate results of the issue will be announced quarterly, at the first working day following each quarter of the subscription period, at the Company web site.

Initial research and development activities will start as soon as the proceeds of the issue permit, and, as far as needed, will be synchronised with the available budget and be temporised accordingly. The full-time research and development activities are expected to start only during the intended follow-up issue, and will also, as far as needed, will be synchronised with the available budget and be temporised accordingly.

The reason for the offering is to raise sufficient capital for financing the execution of the "Research, development and demonstration plan" (see chapter 12). If not all depository receipts will have been issued within the one year duration of the issue, the Issuer will call a meeting of the holders of depository receipts in respect of class B shares, to discuss and resolve between two possible courses of action: (1) the launch of a new issue of limited size, similar to the current one, by means of publication of an updated prospectus, and continuation of the initial research and development activities, and especially of the publicity campaign, synchronised as needed with the available budget; (2) discontinuation of the activities and cancellation of the issue. In case of a decision according to option 2, the investors will be proportionally reimbursed for their investment after deducting all actual costs incurred by the Company and the Issuer, including the operational costs, the costs of the issue and the publicity campaign, the costs of the research and development activities performed, and the costs of the dissolution of the Company and the Issuer. According to the articles of association of the Issuer, in a meeting of depository receipt holders, to each depository receipt one vote is attached, and decisions are taken with an absolute majority of votes.

The current issue is the first stage of an intended two-stage issue approach to secure funding for the complete budget for the Project. If the current issue proceeds well, it may, for the remaining depository receipts to be issued, be incorporated in the intended follow-up issue, such at the discretion of the Management Committee of the Issuer, in close cooperation with the Management Board of the Company.

## **10 Offering restrictions**

### **10.1 General**

The distribution of this prospectus, and the offering, sale and delivery of the depository receipts in certain jurisdictions may be restricted by law. Receipt of this Prospectus will not constitute an offer in those jurisdictions in which it would be illegal to make an offer and, in those circumstances, this prospectus will be sent for information purposes only and should not be copied or redistributed. Persons into whose possession this prospectus comes, are required by the Issuer to inform themselves about and to observe any such restrictions. This prospectus does not constitute, and may not be used for purposes of, an offer, invitation or solicitation by anyone in any jurisdiction or in any circumstances in which such offer, invitation or solicitation is not authorised or to any person to whom it is unlawful to make such offer, invitation or solicitation.

Any person, resident in, or a citizen of, a particular jurisdiction, considering purchase of depository receipts offered hereby, shall consult professional advisers as to whether any governmental or other consents are required, any other formalities need to be observed, or any issue, transfer or other taxes are due to enable such purchase, and shall satisfy full observance of the applicable laws of that jurisdiction or any other relevant territory.

Copies of this prospectus, or any other offering materials or advertisements will not and shall not be sent or distributed, to any person, in or into any jurisdiction where to do so would or might contravene securities laws or regulations of that jurisdiction.

### **10.2 United States of America, Canada, Australia and Japan**

In particular, restrictions apply to, but are not limited to, the United States of America, Canada, Australia and Japan. No offers are made, neither directly nor indirectly, by whatever means, in or towards the United States of America, Canada, Australia and Japan, or to any U.S. person as defined in Regulation S of the U.S. Securities Act of 1933, as amended.

### **10.3 Offering restricted to the European Economic Area**

The depository receipts will be offered to the public in any Member State of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State") in the period beginning on the date of publication of this prospectus, and ending on the date which is 12 months after the date of publication, all in accordance with the Prospectus Directive, especially chapter 1 (General provisions), Article 1 (Purpose and scope), clause 2 sub h: "This Directive shall not apply to: securities included in an offer where the total consideration of the offer is less than EUR 2 500 000, which limit shall be calculated over a period of 12 months". The expression "Prospectus Directive" means "Directive 2003/71/EC of the European Parliament and of the Council of 4 November 2003 on the prospectus to be published when securities are offered to the public or admitted to trading".

Investors should be aware that in view of the above-mentioned exemption, this prospectus has NOT been approved by the Authority for the Financial Markets (the AFM) of The Netherlands. Even though the text of the prospectus is largely based on the text of the prospectus of 21 June 2010, which was AFM-approved, and the Management Committee of the Issuer has endeavoured to meet the legal requirements for an AFM-approved prospectus, full compliance is not guaranteed.

For the purposes of this provision, the expression an "offer of depository receipts to the public" in relation to any depository receipts in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and the depository receipts to be offered so as to enable an investor to decide to purchase or subscribe to the depository receipts.

Except for any Relevant Member State, the Issuer does not represent that this Prospectus may be lawfully

distributed, or that the depository receipts may be lawfully offered, in compliance with any applicable registration or other requirements in any jurisdiction, or pursuant to an exemption available under it, or assume any responsibility for facilitating any such distribution or offering. In particular, no action has been taken by the Issuer, which would permit a public offering of the depository receipts or distribution of this prospectus in any jurisdiction where action for that purpose is required.

## 11 The technology

### 11.1 Prevalent nuclear fusion technologies

#### *Thermonuclear fusion*

In nuclear fusion, atomic nuclei merge into nuclei of heavier elements. By Einstein's famous formula  $E = mc^2$ , fusion of light elements converts a tiny amount of mass into energy. Fusion reactions need collisions at high velocity to overcome Coulomb repulsion between nuclei. Particle acceleration in a recent pyroelectric device demonstrates steady-state fusion of light nuclei using table-top size equipment, but it is not scalable to energy production. Thermonuclear fusion merges nuclei by thermal collisions in high-temperature plasma states with free electrons and ions. It is the energy source of the Sun and other stars. Fusion of hydrogen has powered the Sun for several billions of years, and will continue to do so for a similar period of time. On Earth, nuclear fusion released the explosive power of deuterium in the hydrogen bomb. Full control of the fusion process will constitute a new source of primary energy, which, by human standards, is inexhaustible.

As opposite process of nuclear fusion, nuclear fission splits nuclei into lighter ones. Here, Einstein's formula converts mass into energy by fission of heavy nuclei like uranium. Uranium fission is stable in nuclear power plants, and explosive in the atomic bomb and, for ignition, in the hydrogen bomb.

Solar-size stars confine their thermonuclear plasma by inward Newtonian gravity at megabar pressures. For pressure ranges workable on Earth, leading magnetic confinement schemes have to rarefy their thermonuclear plasma to stratospheric densities. The leading inertial alternative employs laser beams focussed on solid fuel pellets for ignition and explosive decay like a micro-version of the hydrogen bomb. Particle density in air at sea level takes middle ground between density in solids and stratospheric values. Natural deuterium in moist air levels with fuel concentrations in magnetic fusion devices. Current research conclusively demonstrates high-energy emissions by natural and rocket-triggered lightning discharges. Convectron model calculations find durable high-energy conditions in ball lightning treated as charged vortex plasmoid with photonic response of left-handed materials.

#### *Magnetic confinement*

Confinement in a magnetic field is the oldest method for maintaining pressure equilibrium. Several approaches exist, including magnetic mirror systems, multipole configurations and the tokamak. The latter concept has developed the confinement of hot plasmas towards very large-scale experimental devices with capital-intensive provisions for control of the fusion process. This holds in particular for the complex magnet systems for confining, heating, and stabilising the plasma. Moreover, powerful vacuum equipment is needed to maintain density and purity of the plasma in the reaction chamber. The most recent structures and designs are further complicated by cryogenic systems for superconducting electrical circuitry avoiding prohibitive energy consumption. Since the first hydrogen bomb explosion in 1952, successive magnetic confinement projects towards harnessing and controlling release of fusion energy have cost more than any space mission.

Heating the plasma to a very high temperature is a necessary but not sufficient condition for the production of thermonuclear energy from a plasma. A much stronger constraint is that fusion reactions must produce more energy than needed for reaching and maintaining fusion conditions in the plasma. Based on this consideration, Lawson deduced a threshold value for the product of fuel concentration and confinement time for a fusion plasma with net energy production. Particularly in magnetic confinement, the Lawson threshold is considerably increased when heavy ions in the fusion plasma increase radiation losses to the environment. The problem of too rapid cooling down of the fusion plasma as a consequence of contamination with heavy ions from the reaction chamber wall, is another uncertain factor in the future of large-scale fusion reactors like the tokamak.

Magnetic test facilities like the Joint European Torus (JET) in Culham near Oxford in the UK, briefly burn hydrogen isotopes at extreme dilution of the fusion plasma. The planned next generation reactor is the Inter-

national Thermonuclear Experimental Reactor (ITER), now under construction in Cadarache in southern France. The ITER programme covers 30 years at a cost of USD 9 billion, including 10 years of construction and 20 years of operation, and has a target of producing 500 MW of fusion power for a duration of up to 400 seconds. These numbers clearly illustrate the challenges that tokamak-based schemes still face regarding future commercial deployment of nuclear fusion.

### ***Inertial confinement***

The other technology that has been a main focus of nuclear fusion energy research concerns inertial confinement schemes. In this approach a short but heavy and focused energy pulse establishes a short-lived compression of the nuclear fusion fuel to the required conditions for thermonuclear fusion. The hydrogen bomb is based on this principle, and a technology for controlled inertial nuclear fusion is fuel pellet compression. A small quantity of thermonuclear fuel in the form of a fuel pellet is compressed and heated to fusion conditions for a very short time due to the focused inertial force provided by a laser or particle beam. In practical experiments mostly lasers have been used. When first proposed, it seemed an elegant approach towards controlled nuclear fusion, but research during the 1970s and 1980s has demonstrated that the efficiency of the process is rather low due to high energy losses when compressing the fusion plasma. Another difficulty is the intermittent character of the process, which requires large-scale and expensive equipment.

## **11.2 An alternative route to nuclear fusion**

### ***Ball lightning and circuit breaker fireball***

Ball lightning is a natural plasma phenomenon linked to thunderstorm and lightning, which remained unexplained for several centuries. Collection and analysis of thousands of eyewitness reports have brought global consensus on its main characteristics. Most striking for a plasma state is its long lifetime of several seconds on average, with some events lasting much longer, even well beyond one minute, while maintaining constant size and appearance. Close encounters of ball lightning with two scientists add unique and puzzling details. Jennison's airliner event combined perfect spherical shape with absence of heat radiation. Dmitriev's ground-based event combined exceptional duration with coloured double halos and ionising radiation output. Ball lightning data clearly violate basic laws of classical physics, and no laboratory test has so far been able to reproduce the full range of its observed properties.

Lightning research records discharge currents up to hundreds of kilo-amperes, carrying charges of several hundred coulomb from thunderclouds towards the Earth in one stroke. Comparable currents arose from accidental short-circuits of submarine propulsion batteries. Fireballs resembling ball lightning floated from circuit breakers interrupting short-circuit currents above a threshold value. Such fireballs occurred on board of US submarines equipped with double propulsion units for duty on the Pacific Ocean during World War II.

Well-documented observations of ball lightning show that an explanation of this phenomenon must account for the following facts: (1) ionised air is able to form a fully independent plasma sphere of about 15 centimetre diameter; (2) the plasma sphere can have a density similar to or higher than the surrounding air; (3) the average lifetime amounts to several seconds, with reported maxima above one minute; and (4) energy conversions inside the ball can release more than one megajoule of energy.

The Convector boson model for ball lightning and circuit breaker fireballs attributes these characteristics to superconductivity and nuclear fusion inside the plasma sphere. A short description of these aspects of the ball lightning model follows hereafter.

### ***The boson model***

In the classical vortex ring (like e.g. a smoke-ring), a fluid (gas or liquid) circulates around a circular axis. The circulation velocity is at its highest on a ring-shaped surface around the vortex axis. Inside this surface the velocity profile reaches a uniform angular velocity as in rigid body rotation. Also, fluid could be absent inside the surface (hollow vortex). In both cases external pressure provides the circulation with the required

centripetal force field. Plasma vortices show a similar circulation pattern around the symmetry-axis of a magnetic field. Dependent on the direction of the circulation, the Lorentz force drives electrons to the axis and ions to the circumference of the plasma vortex or conversely. In the first case, in an equilibrium situation just enough electrons gather around the vortex axis to keep the ions in a circular path through Coulomb forces.

According to the Convectron hypothesis, a high-energy fireball is generated from a lightning flash or arc discharge when electron-pairs near the vortex axis condense into the Bose-Einstein ground state, which is characteristic for electrons in superconducting metals. The condensed electrons in this process obtain a binding energy, comparable to the energy of their rest mass:  $mc^2 = 511 \text{ keV}$ . The electrical field around the negatively charged vortex filament is neutralised by ions circling around it and obtaining velocity differences of magnitudes that make fusion reactions between light nuclei inevitable. In this ion-vortex, free electrons are absent and consequently there is no harmful Bremsstrahlung-effect (electromagnetic radiation losses caused by deceleration of electrons by ions) on the energy balance of the fusion process according to Lawson.

In the model, which was first proposed by Dr Dijkhuis in 1979, ball lightning is treated as a sponge-like plasma threaded by hollow vortex filaments trapping electrons in a bosonic ground state. Its charge and mass partly circulate without friction at velocities prescribed by quantum theory, as they do in metals and at low temperature in liquid helium. The average ball lightning will radiate away circulation energy received from its parent lightning, and decay. But with enough initial energy the vortex circulation taps fusion energy of light nuclei turning ball lightning into a nuclear heat source. The primary fusion fuel in the rare long-lived and haloed ball lightning is deuterium, which is abundant in water and moist air.

Charge in ball lightning confines itself by surface tension inside a bosonic core of quantised vortex filaments. Microscopic vortex filaments arise from skin friction on spark plasma moving sideways along a solid surface as in turbulent boundary layers on the wings of an airplane. Their mutual attraction confines and shapes the plasma into a sphere as gravity does for the Sun. Self-confinement gives the ball lightning reactor concept a huge technical and cost advantage over current test facilities for controlled fusion dependent on external confinement magnets.

In high-energy ball lightning, ions moving in circular orbits around the vortex axis as in a flywheel, attain threshold energies for fusion reactions. By turbulent dynamics, vortex tubes grow exponentially in length and circulation energy while ambient plasma remains cool and dense. Such vortex acceleration heavily favours ion energy over much lighter co-rotating electrons. At last vortex tubes break through the surface and collapse, releasing fast ions that collide with ambient air molecules. Ignition of fusion reactions between deuterium nuclei in the plasmoid requires no more internal voltage than a spark plug in a car engine. Ionising reaction products shroud such a high-energy plasmoid in a coloured halo as seen around radium in the dark.

The fusion process in high-energy ball lightning starts with vortex tubes radiating positive charges in all directions. Underneath the surface charged reaction products excite new vortex loops in bosonic plasma as fast alpha particles do in superfluid helium. Coulomb repulsion drives flux and negative charge to the surface, keeping charge and flux levels steady throughout the ball. High ion and low electron energy in vortex motion facilitate energy break-even in the fusion regime, without useless electron heating and radiative losses marred current fusion schemes.

### ***Atmospheric nuclear fusion***

In nature, moist air has a deuterium concentration comparable to that in a tokamak reactor, because one to about three thousand water molecules is heavy water, DHO. In the interface of atmosphere and ball lightning, the DHO molecule dissociates into atomic deuterium, hydrogen and oxygen. Diffusion of deuterium atoms through the interface gives the ball lightning a longer lifetime. Inside the fireball, electric field strength above a threshold of several megavolts per metre maintains a non-thermal equilibrium of free electrons, ions and atoms. The overall circulation carries deuterium through a network of vortex filaments. The electric field of plasma vortices pulls deuterium nuclei into the supersonic part of the vortex circulation, where centripetal forces accelerate the deuterium nuclei further towards fusion energies. Fusion of deuterium

nuclei generates fast neutrons, protons, tritium nuclei and helium-3 nuclei. Because of their long range in air, the neutrons escape from the plasma sphere. As a consequence of their charge, the range of the other fusion products is only a few centimetres. Therefore, these particles can escape from the plasma vortex, but then lose their kinetic energy largely to the plasma inside the fireball. In the same manner as the deuterium nuclei reach the reaction zone, the produced tritium and helium-3 can be carried back towards the plasma vortices and fuse with deuterium into neutrons, protons and helium-4 nuclei. The charged fusion products again are largely slowed down inside the plasma sphere. The released heat is transported convectively to the surface of the plasma ball by the over-all plasma circulation. By radiation of light and conduction of heat, the fireball loses energy to its environment. The non-reacting fusion product helium-4 leaves the ball by diffusion through the interface. The net conversion in the atmospheric plasma ball approaches the catalysed D-D reaction given by:



This reaction releases about one third of its energy inside the plasma sphere through helium and tritium nuclei, and through protons generated by fusion of deuterium nuclei. The remainder ionises ambient air through neutrons and protons from fusion of deuterium and helium-3 nuclei. Fast nuclei convert their energy partly into gamma photons from annihilation of electron-positron pairs. Hence emission of 14 MeV protons and 511 keV photons characterise the ball. This fusion process locally changes the chemical composition of air: less deuterium, more helium-4, and traces of helium-3 and tritium.

During fireball generation on board of submarines, short-circuit currents exceed typical currents of lightning strokes. Blow-out coils add vorticity by shearing the discharge sideways along the electrode surface.

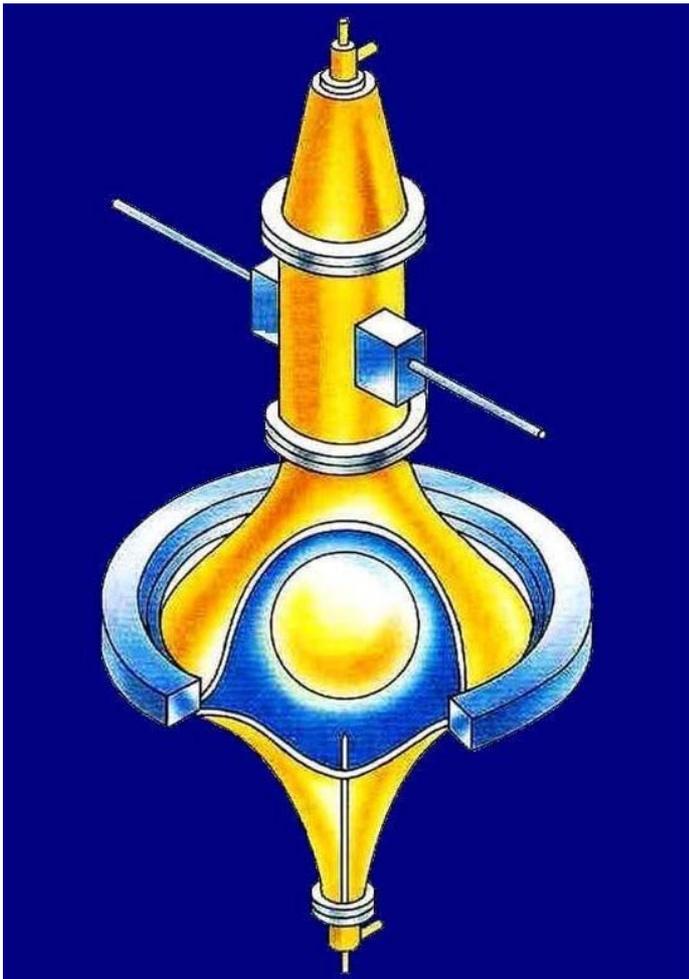


Figure 2 - Design of the Convectron reactor vessel

Short-circuit tests under James Tuck at Los Alamos National Laboratory with submarine batteries in the 1970s recorded a circuit-breaker fireball on high-speed film. Tuck was at the time director of Project Sherwood, a US programme for controlled nuclear fusion. Guided by Tuck's tests, the Predecessor recorded fireball generation on high-speed film in 1985 in Rotterdam Waalhaven with the test facility shown in Figure 1, chapter 4, left photo. For demonstration of nuclear fusion processes in vortex plasma, Convectron turned to high-voltage discharge of a large capacitor bank into supersonic gas flow in a wind tunnel with the test facility shown in Figure 1, chapter 4, right photo.

Deuterium entered the flow through a standard mixing unit injecting fuel as in a jet engine. For fast neutron detection the company combined standard boron-fluoride tubes with state-of-the-art electronics and software. Halfway through the test series at KEMA High-Power Laboratory of the Dutch public electricity utilities, funds ran out and experiments were stopped just after the neutron detector had recorded expected pulse counts as evidence for fusion reactions. Meanwhile a third method opens perspectives on non-erosive ignition of fireball plasma by wire-based electrodes, and future tests by the Company will focus on this route.

### 11.3 Convectron small-scale nuclear fusion reactor

The proof-of-principle amounts to demonstration of steady-state fusion in vortex plasma at a stable position in a controlled atmosphere. Once formed by the ignition process, gas jets channel the plasmoid to a contoured reactor vessel with controlled gas circulation as disclosed in the first Convectron patent (see Figure 2).

In the reaction chamber, the high-energy fireball is positioned by a gas jet consisting of a non-reactive carrier gas, mixed with a small amount of deuterium. For positional fine-tuning, additional electric or magnetic fields may use net charge or bosonic diamagnetism of the ball. Diffusion from the surrounding gas mixture fuels the ball with deuterium, removing helium and other reaction products quickly by turbulent diffusion. Inside the plasma vortices, deuterium nuclei are accelerated to energies which make fusion reactions inevitable. The power output of a ball with given energy content can be regulated by variation of the deuterium concentration in the non-reactive carrier gas. By scale rules of the boson model, natural deuterium concentration of moist air can support fireball fusion power at levels of 10 to 100 watt, corresponding to an average electric light bulb. Useful energy production at 0.1 to 1 megawatt power levels requires raising the fuel concentration with a factor 100 from 1 to 100 parts per million. In this way the energy used in the ignition circuit is regained within a few seconds. As long as the gas stream around the fireball supplies deuterium and removes the produced helium, the fusion process continues.

The energy of the emitted particles and radiation can be absorbed in a water shield which directly converts it into steam. The steam produced can generate electricity in a conventional way. The reaction stops by cutting fuel injection as with the throttle of a car engine. A mixing unit for controlling fuel injection that was developed by the Predecessor in cooperation with a well-known Dutch supplier of industrial gases, was operational during the ignition tests with supersonic wind tunnel and capacitor banks at KEMA High-Power Laboratory.

## 12 Research, development and demonstration plan

### 12.1 Project plan in three phases

The scope of the current issue of depository receipts of class B shares in Convectron Natural Fusion N.V. is especially to raise funds to finance a publicity campaign and a follow-up issue. Both issues together seek sufficient capital for financing four years of research, development and demonstration activities (the "Project"). The Project plan proceeds in three distinct phases towards the following goals:

1. reproducible fireball generation and demonstration of natural fusion process;
2. control of fireball position inside reactor vessel and increase of lifetime and energy output;
3. fine-tuning for steady-state operation beyond energy break-even, and first marketing initiatives.

In Phase 1 three test programs will focus on reproducible fireball generation in open air by microwave photonics technology at cryogenic temperatures. The first test program will optimise non-erosive electrode design by spectrum analysis at low voltage for resonant energy transfer. This program can start anywhere without delay on table-top-size test facilities. The second test program will upscale charge and voltage from storage capacitors for electric breakdown in air above a threshold field for non-thermal discharge regimes. Such breakdown tests can follow on short notice with megavolt facilities installed at Delft University of Technology in The Netherlands. The third test program will monitor and diagnose radiation and particle emissions for validation of fusion reactions in the fireball. This program will benefit from the Predecessor's neutron detection experience and its current vogue in materials research. Throughout Phase 1, patent applications will pursue proprietary rights on method and apparatus for photonic plasma generation. Design and engineering options for the reactor vessel and power source to be used in Phase 2 will also start in this phase.

Phase 2 will construct and test reactor vessels confining fireball generation in controlled flows of fuel-rich gas mixtures at atmospheric temperature and pressure. Evidence on flow- and field-suspended spheres will guide experiments for stable fireball positioning inside reaction chambers contoured by novel computation methods. Standard pumps and valves will circulate gas mixtures with composition controlled by fuel injection and cryogenic removal of reaction products. Standard emission counters and spectroscopic tools will scan fireball power, ignition energy and fuel concentration for validity of scale rules and their ranges. Selected construction materials shall minimise activation of reactor vessel materials by ionising emissions from the fireball. A comparative test program for primary fuel cycles will minimise or even avoid radioactive reaction products. Operational reactor prototypes will demonstrate energy break-even of suspended fireballs with stable size and brightness for any length of time.

Phase 3 will submerge the reactor vessel in a water mantle, and boost output power of fireballs to calorimetric levels required for market potential as source of primary energy. Calculation of reference values for fusion reaction rates use established cross sections and their thermal means governing stellar evolution. The electric program will test linear scaling of power output with the energy that bosonic fireballs receive at ignition by high-voltage sources. The gas dynamic program will test quadratic scaling of their power output with fuel concentration in the gas mixture. Test sequences will use high-voltage facilities, releasing ignition energy at megajoule levels. Standard mixing units raise natural deuterium abundances of 1 part per million by many orders of magnitude. Ignition of megajoule fireballs in gas mixtures with one hundred times the natural deuterium abundance will match the Convectron reactor with megawatt power levels of large wind turbines. Reactor operation will be fine-tuned for continuous operation. At the end of this phase, the system that is then in operation will be prepared for commercial application.

As yet the peak-power tests of phases 2 and 3 are planned at existing high-voltage facilities. The option at hand is KEMA's High-Power Laboratory in Arnhem, The Netherlands, where the Predecessor has carried out a modest test sequence in 1987. Contacts with KEMA are available for the projected experiments. The attractive alternative of a proprietary high-voltage source runs certain risks of prohibitive delays caused by license procedures. Technically its construction can proceed stepwise in line with growing ignition power

demanded by successive project phases. Financially, earlier expenses of this option require re-allocation of rental funds currently earmarked in phases 2 and 3 for the external high-power facility.

The basic principles for the reactor design were already disclosed in the 1985 European Patent. Reactor design, construction and operation will go through several successive development stages, and the final reactor of Phase 3 will be preceded by one or more prototype reactors.

## 12.2 Duration and milestones

Precise time windows for successive project phases are not given beforehand, but planned durations will average 16 months per phase. The summaries above highlight three explicit milestones to be reached: (1) reproducible fireball generation in free air ignites natural fusion reactions; (2) energy break-even of fireballs suspended in fuel-rich gas mixtures; and (3) continuous operation of commercial reactor prototypes at calorimetric power levels.

## 12.3 Budget and financing

Table 1 provides a summary of the budget that has been drawn up for the Project, with details per phase. The budget is inclusive costs of the Company and the Issuer, but exclusive the costs of the issue. The budget has been carefully drafted, and is considered to be both realistic and conservative. Substantial budget entries for contingencies have been included, for which percentages of 10.0, 20.0 and 33.3 have been applied for phases 1, 2 and 3 respectively. During the Project, the Company and the Issuer will perform no other activities than the Project, the related issue of depository receipts to finance the Project, and the necessary administrative duties for the issue and for running the Company and the Issuer. The average phase duration of 16 months is used for drafting the budget. Part of the budgets allocated to phases 2 and 3 may already be used in the previous phase, for the purpose of preparation of activities in the next phase. The financial data included in Table 1 are unaudited. The table including the financial data has been drafted by the Management Board, based on a careful planning of the intended activities, and using their expert knowledge and experience.

<i>amounts in euro</i>	<b>Phase 1</b>	<b>Phase 2</b>	<b>Phase 3</b>	<b>totals</b>
personnel (including management)	800,400	1,480,395	1,960,135	4,240,930
laboratory and office space	100,000	175,000	175,000	450,000
rent of short-circuit facility and services	400,000	2,600,000	2,600,000	5,600,000
third party services	250,000	400,000	600,000	1,250,000
test equipment	500,000	1,500,000	2,000,000	4,000,000
functional hardware design	750,000	750,000	750,000	2,250,000
functional hardware construction	1,000,000	2,500,000	3,000,000	6,500,000
software development	500,000	750,000	1,000,000	2,250,000
study of alternative fuel cycles	115,000	185,000	255,000	555,000
patent and legal costs	200,000	500,000	700,000	1,400,000
costs of the Company and the Issuer	125,000	200,000	300,000	625,000
contingencies (%)	10.0%	20.0%	33.3%	24.5%
contingencies	474,040	2,208,079	4,446,951	7,129,070
<b>totals</b>	<b>5,214,440</b>	<b>13,248,474</b>	<b>17,787,086</b>	<b>36,250,000</b>

Table 1 - Summary of the budget for the execution of the Project

The following average numbers of employees (in addition to the members of the Management Board) are expected for the three phases of the Project: Phase 1: 5 employees; Phase 2: 14 employees; and Phase 3: 20 employees.

The working capital of the Company will consist of the combined proceeds of the current issue and the intended follow-up issue (the working capital at the start of the current issue is nil). The combined proceeds on complete subscription of both issues (40 million euro), after subtracting 3.75 million euro for covering issue costs, match the budget. The maximum percentage of the combined proceeds of both issues that can be allocated for covering issue costs is set at 10%, or 4.0 million euro. In the unlikely event that more than 3.75 million euro would be needed for issue costs, the missing part, with a maximum of 0.25 million euro, will be proportionally charged to the entries "contingencies" for the second and third phase. Interest revenues from the part of the proceeds of both issues that at any time is not yet expensed, were not taken into account in drafting the budget. Initial research and development activities will start as soon as the proceeds of the issue permit, and, as far as needed, will be synchronised with the available budget and be temporised accordingly. The full-time research and development activities are expected to start only during the intended follow-up issue, and will also be synchronised with the then available budget and be temporised accordingly.

#### **12.4 Relevant expertise and experience of the key technical staff**

Both members of the Management Board also constitute the key technical staff of the Company. Both have been actively and intensely involved in the large-scale experiments carried out by the Predecessor in the 1980s, and through this have both acquired extensive expertise and experience that is highly relevant to the planned research and development activities of the Company. These experiments involved two different test facilities. The first series of tests consisted of circuit breaker short-circuit disruptions of a circuit of initially one, and at a later stage two complete submarine batteries, having in total about 32 MW short-circuit power (see Figure 1, chapter 4, left side). Relevant activities included: acquisition (on lease) of the batteries (with cooperation and support of the Dutch Navy, Varta and Holec); construction and operation of the facility (first in an old Holec factory building, later in a rented factory building in Rotterdam); close cooperation with the small enterprise Kooy Techniek in Rotterdam for the design and engineering of highly specific, custom-made switches, circuit breakers and control equipment; operation of a high-speed camera, on loan from the Technical University of Delft; and acquisition and operation of custom-made and standard measuring equipment. The second test facility was using a 250 kV capacitor bank discharge over a supersonic gas flow. Relevant activities included: construction of a mach 2.5 Laval nozzle of insulating material, based on design calculations especially made by the Von Karman Institute for Fluid Dynamics in Brussels, Belgium, and including two electrodes for discharge of the capacitor bank; close cooperation with two small Dutch enterprises for engineering of a die, and die-casting of the nozzle (Mekufa); close cooperation with and help from AKZO for design and engineering of an special insulating pipe of high strength from its then brand-new fibre product Twaron; design and engineering by HoekLoos, now part of the Linde Group, of special equipment for generating a 10 bar nitrogen gas discharge through the Twaron pipe and Laval nozzle, and for introducing small quantities of deuterium gas into the main gas stream; preparation of two dedicated high-voltage bushings by Felten & Guillaume in Germany; close cooperation with the small enterprise Kooy Techniek in Rotterdam for the design and engineering of additional structural components of the discharge unit, and for assembly of the unit; operation of this facility at KEMA High-Power laboratory (see Figure 1, chapter 4, right side).

#### **12.5 The need for licences required by legislation and regulations**

The company will need for its operations certain licences from the authorities that are required according to legislation and derived government regulations, for instance licences in the framework of the Environmental Act of The Netherlands (in Dutch: "Wet milieubeheer"), the Working Conditions Act of The Netherlands (in Dutch: "Arbeidsomstandighedenwet"), and at a later stage of the research and development activities also in the framework of the Nuclear Energy Act of the Netherlands (in Dutch: "Kernenergiewet"). Acquisition of such licences from the authorities may sometimes require considerable time, which implies a certain risk for a smooth and timely execution of the planned research and development activities. In particular such licences will be required for: (1) installing and operating a proprietary capacitor bank test facility (if the Company decides to do so), and shielding the outside world from its electromagnetic pulses during operation; and (2) radiation aspects of the test program after demonstration of nuclear fusion. For the capacitor bank, effective pulse shielding is considered to be within reach of the technical and financial means as indicated in the budget, and of the timetable for design and installation. Similar capacitor banks, of different sizes, are cur-

rently in operation in The Netherlands (Delft, Eindhoven, KEMA). Also, required shielding levels depend much on location choice. Radiation aspects complicate nuclear fusion much less than fission reactors as operated in Petten, Delft and Borssele in The Netherlands. The demonstration phase will restrict radiation from fusion plasma to levels used in health care. Radiation is only produced when an experiment is running. Special materials will minimise reactor vessel activation by ionising radiation. Moreover, successful tests of advanced fuel cycles may provide fusion power without radioactive reaction products.

## **12.6 Cooperation with other entities and cooperative research**

The Company has been founded recently, and has not yet started its research and development activities. Start of these activities is dependent on the outcome of the current issue. Mainly for this reason, the Company has not yet entered into any agreements for cooperative research and development with organisations of high standing and repute within the industry. However, ongoing contacts exist with some of the relevant partners of the past (see section 12.4 - "Relevant expertise and experience of the key technical staff"). Also, given the experience of the past, the Management Board is confident that such cooperation with relevant partners can be established or re-established, whenever needed, as soon as the research and development activities will have started.

### **13 Protection of know-how**

The Predecessor of the Company owned patent rights in several European countries, Canada and Australia, on two possible methods for creation of fireballs, and on the method and apparatus for positioning, fuelling and maintaining a ball in a reactor vessel. Due to the situation of the Predecessor at the end of the 1980s, these patent rights were eventually not maintained, and only a patent in Canada remained, which however has expired several years ago. In the mean time, a third and expectedly more efficient and adequate approach for fireball ignition has been identified and elaborated. A patent application covering this new method is in preparation, and is expected to be filed as soon as proceeds from the current issue permit. The rights to this application, and to possible related subsequent applications, have been transferred by the founders to the Stichting Administratiekantoor Vortex, a shareholding trust foundation controlled by the founders, which has subsequently sold these rights to the Company (see chapter 14 for details of this transaction). Furthermore it is expected that during the experiments focusing on fireball generation, and during the development and testing of the reactor chamber and its operation, many details will result in additional patentable knowledge, as is usually the case with research enterprises. This means that during the research, development and demonstration phase and even during the pre-commercialisation phase, the Company will have to follow a closed-door policy, to protect its knowledge until patent applications have been submitted that sufficiently cover this knowledge.

## 14 Financial statements and historical financial information

The Company, Convectoron Natural Fusion N.V., is a new public limited company, incorporated on 4 January 2010, and for this reason has limited historical financial information, and only one financial statement, for the year 2010. The initial subscribed capital amounts to €45,000 nominal, paid for at the nominal price by the founders. The shares have been transferred to the Stichting Administratiekantoor Vortex ("Vortex"), a shareholding trust foundation controlled by the founders. Vortex is the holder of the shares.

At the dissolution of the Predecessor (Convectoron N.V.), any existing rights concerning the concept and the Predecessor have been transferred to the founders of the Predecessor. These assets include the name "Convectoron", the reputation of the name, the original logo of the Predecessor, results of the experiments carried out by the Predecessor, including measurement results and laboratory journals, computer programs and imagery. The founders have transferred these assets, and in addition any existing know-how and rights to the concept, as well as the rights to the new patent application, and to possible related subsequent applications, to Vortex. The assets concerning existing know-how and rights to the concept do not derive from the Predecessor: the only remaining patent that was in possession of the Predecessor expired several years ago; all further work and scientific developments during the period of dormancy of the Predecessor have taken place completely outside the Predecessor; a third, completely new and promising approach for ignition was discovered and developed during recent years, for which a new patent application is in preparation, and which is likely to lead to subsequent applications.

These transferred assets (including both the assets acquired from the Predecessor, and all existing know-how and rights to the concept, as well as the rights to the new patent application and to possible related subsequent applications) have thereupon been sold by Vortex to the Company at the price of €110,000, based on an agreement between Vortex and the Company. According to the same agreement, Vortex has raised its participation in the capital of the Company with another €59,000 nominal, paid for at the nominal price (paid for by 31 March 2010, issued by notarial act of 9 April 2010), while the Company has paid off €60,000 of the mentioned debt to Vortex.

Table 2 reflects the as yet unaudited balance sheet of the Company per 30 June 2011. The intangible assets include the above mentioned assets acquired from Vortex (€110,000), and the costs of 2010 (€ 69,271) and the first six months of 2011 (€3,409). The long-term debts consist of the debt to Vortex, of which €50,000 is remaining at the date of publication of this prospectus (see above), a debt of €18,484 to the auditor, for which a no "success / no pay" basis was agreed beforehand, a disputed claim of €7,193 from a supplier, a loan of €700 from Vortex, and a loan of €2,600 from the Issuer. The short-term debt concerns a limited amount of accounts payable from ongoing operations.

assets		equity and liabilities	
intangible assets	€ 182,680	equity capital	€ 104,000
cash and cash equivalents	30	long-term debt	78,977
prepaid costs and deposits	605	accounts payable	338
	total € 183,315		total € 183,315

Table 2 - Unaudited balance sheet of the Company as of 30 June 2011

In the previous issue, based on the prospectus of 21 June 2010, and active from 21 June 2010 through 20 June 2011, during 2010 18 depository receipts were issued, while in 2011 another 17 depository receipts were issued.

In the first part of 2011, until the publication date of this prospectus, costs were kept at a minimal level.

All financial data in this chapter are unaudited, and are provided by the Management Board. In view of saving on costs, the audit of the year 2010 annual account has been postponed. This audit will be carried out as soon as two hundred and fifty depository receipts will have been issued under the current issue.

The Issuer, the Stichting Administratiekantoor Convectron Natural Fusion, is a new foundation, incorporated on 4 January 2010. As the only task of the Issuer concerns the issue of depository receipts in respect of shares of class B of the Company, and the purchase of the corresponding shares, and as the costs of the Issuer are borne by the Company, no balance sheet of the Issuer is included.

## **15 Taxation**

### **15.1 General**

The next section provides summary information concerning taxes on the income from dividends withheld at source (withholding tax) in The Netherlands. Besides this, the summary does not address any other tax consequences arising in The Netherlands, nor any tax consequences arising in any jurisdiction other than The Netherlands, in connection with the acquisition, ownership and transfer of depository receipts or the underlying shares. Prospective investors, both residents and non-residents of The Netherlands, are strongly advised to seek appropriate professional tax advice concerning their specific situation with respect to the tax consequences of an investment in the offered depository receipts.

### **15.2 Withholding tax imposed in The Netherlands**

Dividends paid on the depository receipts and underlying shares to a holder of such depository receipts or underlying shares are subject to a dividend withholding tax of 15% imposed by The Netherlands. This dividend withholding tax is also applicable for residents of the countries outside The Netherlands, where the depository receipts are offered, and were this prospectus is published (any Member State of the European Economic Area which has implemented the Prospectus Directive). For individuals resident in The Netherlands, the dividend tax, which is withheld in The Netherlands with respect to proceeds from the depository receipts, will be creditable for Dutch income tax purposes for the beneficial owner of the depository receipts. For corporate entities resident in The Netherlands, the dividend tax, which is withheld in The Netherlands with respect to proceeds from the depository receipts, will be creditable for Dutch corporate income tax purposes for the beneficial owner of the depository receipts. Similar credits may apply for residents (both individuals and corporate entities) of countries outside The Netherlands with which The Netherlands has entered into a bilateral convention for the avoidance of double taxation. The Netherlands has entered into such conventions with each of the abovementioned countries where this prospectus will be published. The Company assumes responsibility for the withholding of taxes at the source.

### **15.3 No dividends expected during the research, development and demonstration phase**

It derives clearly from this prospectus, and from the objective of the Company (article 2 of the articles of association; see section 6.2) that the Company will use the combined proceeds of the current issue and the intended follow-up issue largely (except for issue costs and general operational costs) for financing its "Research, development and demonstration plan", that any possible additional income, which, during this phase, may only result from interest on available funds, will be reserved and used for this purpose, and that no payments can be made to shareholders and holders of depository receipts to the account of interest income or to the account of the capital, except in case of dissolution and settlement of the Company following discontinuation of the activities. In the latter case, the holders of depository receipts of class B shares are solely entitled to remaining funds of the Company (the settlement proceeds; see section 7.7 - "Reimbursement of remaining funds after an unsuccessful end of the activities" for details). Such payments would likely concern a partial repayment of paid-in capital, and not comprise any income component. It should be clear from the objective of the Company, and from the "Research, development and demonstration plan", that for the duration of the Project covered by this plan, the Company will have no income, and that for this period the investor has to take into account a zero return on investment, as also explicitly stated in chapter 2 - "Risk factors". For these reasons, it is obvious that the Company, during this phase, will not pay any dividends. When this phase will have been successfully concluded, the Company will, in principle, and according to the current plan, call for the exchange of the depository receipts for the underlying shares (conversion), and is likely to launch a new (fourth) issue, to raise sufficient funds for the commercialisation of the results of the research, development and demonstration phase. Following this new issue, the share premium reserve paid in by the investors in the depository receipts of class B shares, will, in principle, be supplemented, and be available for payment (see section 7.6 - "Entitlement to and future supplementation of the class B share premium reserve"). Also such payments would likely concern a repayment of paid-in capital, and not comprise any income component.

## 16 Other relevant information

### 16.1 Authorisation for the issue

The issue of the depository receipts by the Issuer, and the corresponding issue of shares in its capital by the Company to the Issuer, has been authorised in terms of the following resolutions: (1) a resolution of the Issuer, in its capacity as Issuer and shareholding trust for the depository receipts, taken by the Management Committee, dated 19 March 2010, to issue a maximum number of 400,000 depository receipts in respect of class B shares of the Company; (2) a resolution of the Company, taken by the by the Management Board, dated 19 March 2010, to issue a maximum number of 400,000 class B shares in its capital to the Issuer, where one share will be issued for each depository receipt issued by the Issuer.

According to article 24 of the articles of association of the Company, the Management Board is for a period of five years from the date of incorporation the only body of the Company authorised to decide for an issue of shares of class A and shares of class B. The issue price has been determined in view of the funds needed for executing the "Research, development and demonstration plan", and the number of depository receipts to be issued in the current issue and the intended follow-up issue.

### 16.2 No listing

The depository receipts will not be listed on any regulated market, and no organised market for the depository receipts will exist.

### 16.3 Applicable law and legal aspects

Convectron Natural Fusion N.V. (the "Company") and the Stichting Administratiekantoor Convectron Natural Fusion (the "Issuer") were established in Rotterdam, The Netherlands, under the laws of The Netherlands, and the laws of The Netherlands are applicable to the Company and the Issuer as well as to this prospectus. The prospectus is published in the English language only.

The current prospectus has been drafted based on the previous prospectus of 21 June 2010.

The current prospectus is published under the exemption formulated in article 1 clause 2 sub h of the Prospectus Directive, which is reflected in article 53 clause 2 of the Exemption Regulation pursuant to the Financial Supervision Act of The Netherlands. This provides an exemption "from the provisions in Chapter 5.1 of the part of the Act entitled Supervision of the Conduct of Financial Markets, to the extent that it concerns securities which form part of an offer under which the total consideration value of the offer, calculated over a period of twelve months, does not exceed €2.5 million." In view of this exemption, this prospectus has NOT been approved by the Netherlands Authority for the Financial Markets (the AFM). Even though the Management Committee of the Issuer has endeavoured to meet the legal requirements for an AFM-approved prospectus, full compliance is not guaranteed.

### 16.4 Share exchange regulation previous investors

According to the "Share exchange regulation previous investors" (in Dutch: "Regeling aandelenomwisseling oud-investeerders"), to be administered and executed by the Issuer, the previous investors in class B bearer shares in the capital of the Predecessor, the dissolved public limited company Convectron N.V., are entitled to register their original share certificates with the Issuer, for a future exchange for class A shares in the Company, in exchange for the original share certificates, under the provision that for each Dutch guilder (NLG 1.00) nominal value of original class B shares in the Predecessor, one class A share of ten eurocents (€ 0.10) in the Company will be made available. For this purpose, the Issuer has the disposal of a block of 40,000 class A shares, held by Vortex (the Stichting Administratiekantoor Vortex), which it has reserved for this exchange. For a registration period of three years, from the date of publication of this prospectus, the previous investors can register their share certificates for participation in the regulation. Further details are

provided in the regulation. The text of the Dutch version of the regulation is legally binding, the English version is provided for information purposes only. Copies of both documents are available for download from the Company web site ([www.convectron.eu/documents](http://www.convectron.eu/documents)).

## 16.5 Miscellaneous

The corporate governance regime of The Netherlands, as laid down in the Dutch corporate governance code (The Dutch corporate governance code - Principles of good corporate governance and best practice provisions, Corporate Governance Committee, 9 December 2003; amended version including changes as proposed in the evaluation report of June 2008 of the Dutch Corporate Governance Code Monitoring Committee) is not applicable to the Company, as it is a non-listed company.

Currently the Company has no employees. Expected average future numbers of employees are indicated in chapter 12 - "Research, development and demonstration plan".

No person has, directly or indirectly, an interest in the capital or voting rights of the Company, which is notifiable under the national laws applicable for the Company (the laws of The Netherlands).

The members of the Management Board have transferred all of their 450,000 shares to Vortex (the Stichting Administratiekantoor Vortex). Vortex has increased its participation with another 590,000 shares. For 64.10% of these shares, the members of the Management Board have future rights to depository receipts in respect of the shares (32.05% each). The members of the Management Board substantially control the Company through Vortex as members of the Management Committee of Vortex.

When all shares available for previous investors in the Predecessor will have been acquired by the previous investors (which according to the related regulation will be effectuated only after successful completion of the Project), and if all depository receipts available in the current issue and the intended follow-up issue will have been issued, the voting rights and ownership of the Company will be distributed as follows: Vortex 69.4% of the voting rights and of the ownership; the Issuer 27.8% of the voting rights (however, according to the terms and conditions of the administration, the Issuer will enable the depository receipt holders by mandate to exercise the voting rights attached to the shares; see section 7.2 - "Characteristics of and rights attached to the depository receipts", third paragraph, for details); the depository receipt holders 27.8% of the ownership; and the previous investors in the Predecessor 2.8% of the voting rights and of the ownership.

No governmental, legal or arbitration proceedings exist which may have significant effects on the financial position or profitability of the Company or the Issuer.

The proceeds of the current issue and of the intended follow-up issue of depository receipts of new class B shares after subtraction of the issue costs is the only capital that will be used to finance the activities in the Company. The Company has currently long-term debts amounting to €78,977 (see chapter 14 for details). The Company will not contract any short-term, medium-term or long-term debts throughout the Project.

There is a material disparity between the nominal price paid for the class A shares issued at and just after incorporation of the Company, and held by Vortex, and the issue price of the depository receipts offered. The difference is the share premium reserve, the major part of which will be used to finance the "Research, development and demonstration plan" (see chapter 12). For the possible future repayment of the share premium reserve, following a successful conclusion of the activities, to the holders of class B shares (and thereby to the depository receipt holders if the scheme of the depository receipts by that time will still be in place), see section 7.6 - "Entitlement to and future supplementation of the class B share premium reserve".

At the date of publication of this prospectus, Vortex holds a majority of the shares of the Company. If the current issue will be completely subscribed to, following the issue, Vortex will still hold a majority of the shares of the Company. This implies that, effectively, during the period of the Project (the intended research, development and demonstration activities), Vortex will be in control of the Company. The Company has explicit measures in place to avoid any possible abuse of this power of control. The Company has a clearly de-

financed plan for the investments in the research, development and demonstration activities, and for the phasing of these activities, together with explicitly defined milestones (see chapter 12 - "Research, development and demonstration plan"). In order to account for a proper use of funds, the Company will publish, throughout the full-time research and development phase, within one month of every quarter, but starting with the first full quarter with research, development and demonstration activities, a report certified by its statutory auditor, concerning the use of funds in the past quarter (see section 3.6 - "Use of proceeds"). The members of the Management Board of the Company are also members of the Management Committee of Vortex.

## **17 Relevant addresses**

### **17.1 Convectron Natural Fusion N.V.**

Registered office:  
Benedenrijweg 391  
3077 CH Rotterdam  
The Netherlands

Postal address:  
2e Korte Baanstraat 3 bis A  
3581 BZ Utrecht  
The Netherlands

email : [company@convectron.eu](mailto:company@convectron.eu)  
web site : [www.convectron.eu](http://www.convectron.eu)

Management Board : Dr G.C. Dijkhuis and K.W. Wevers

### **17.2 Stichting Administratiekantoor Convectron Natural Fusion**

The Issuer has its registered office at the registered office of the Company (Benedenrijweg 391, 3077 CH Rotterdam, The Netherlands), and is using the postal address of the Company (2e Korte Baanstraat 3 bis A, 3581 BZ Utrecht, The Netherlands).

email : [issuer@convectron.eu](mailto:issuer@convectron.eu)  
web site : [www.convectron.eu](http://www.convectron.eu)

Management Committee : Dr G.C. Dijkhuis and K.W. Wevers

### **17.3 Statutory auditor**

M.A. Girbes RA, member of the Royal Dutch Institute of Registeraccountants (NIVRA)  
FSV Accountants  
Laan van Westroijen 6  
4003 AZ Tiel, The Netherlands  
email : [tiel@fsv.nl](mailto:tiel@fsv.nl)  
web site : [www.fsv.nl](http://www.fsv.nl)

### **17.4 Patent attorney**

Riches, McKenzie & Herbert LLP  
2 Bloor Street East, Suite 1800  
Toronto, Ontario, Canada M4W 3J5  
email : [riches@patents-toronto.com](mailto:riches@patents-toronto.com)  
web site : [www.patents-toronto.com](http://www.patents-toronto.com)

## 18 Glossary

Company	the public limited company Convectron Natural Fusion N.V., incorporated under the laws of The Netherlands, established on 4 January 2010, with statutory seat in Rotterdam
Issuer	the Stichting Administratiekantoor Convectron Natural Fusion, a shareholding trust foundation closely cooperating with the Company, incorporated under the laws of The Netherlands, established on 4 January 2010, with statutory seat in Rotterdam, acting as: (1) the issuer of the depository receipts in respect of shares of class B in the Company; (2) the depository of the underlying shares; (3) administration and execution of the "Share exchange regulation previous investors"
Predecessor	the former public limited company Convectron N.V., incorporated under the laws of The Netherlands, established on 4 March 1983, with statutory seat in Rotterdam, dissolved following a decision of an extraordinary general meeting held in Utrecht, The Netherlands on 8 October 2009, which has carried out, during the 1980s, two series of experiments related to the Convectron concept, and was in a dormant state since the end of 1987
Project Vortex	the intended research, development and demonstration activities of the Company the Stichting Administratiekantoor Vortex, a shareholding trust foundation, controlled by the founders, incorporated under the laws of The Netherlands, established on 4 January 2010, with statutory seat in Rotterdam, which holds all issued class A shares, including the shares which are available to the Issuer for the execution of the "Share exchange regulation previous investors"
founders	both the Company and the Issuer were founded by Messrs Dr G.C. Dijkhuis and K.W. Wevers, who also constitute the Management Board of the Company and the Management Committee of the Issuer; together they are referred to in this prospectus as the founders
bearer form	applies to shares and depository receipts (and other titles of ownership), of which the ownership is represented by a certificate without the name of the owner, these days often in the form of an account entry related to one aggregated bearer certificate kept by an administration office
depository receipt	title of ownership of the economic rights attached to the share, in respect of which the depository receipt has been issued; the share is named the underlying share; generally a shareholding trust foundation issues the depository receipts, and acquires for each issued depository receipt one underlying share; the scheme of depository receipts provides a mechanism to separate the economic rights and the voting rights attached to shares; the voting rights remain with the holder of the shares (the shareholding trust)
registered form	applies to shares and depository receipts (and other titles of ownership), of which the ownership is represented by an entry in the name of the holder in a special register kept by the issuer;
shareholding trust	entity, generally a foundation, which issues depository receipts in respect of shares (the underlying shares), and acquires and administers the underlying shares
underlying share	share in respect of which a depository receipt has been issued, generally by a share holding trust foundation, which holds the underlying shares; in this particular case the shares of class B of the Company issued to the Issuer in respect of the depository receipts issued by the Issuer in the public offering

## 19 Bibliography

*Note: The information contained in the articles and book provided in the bibliography listed below is not to be considered part of the prospectus. The bibliography is provided for information purposes only. Inspection copies of the articles and of the book are available at the office of the Company.*

G.C. Dijkhuis, *Calculation of Thermonuclear Power from Atmospheric Deuterium in Bosonic Vortex Crystal*. In: The Journal of Unconventional Electromagnetics and Plasma (UE), Vol. 3, Global Research Publications, New Delhi, India, September 2011 (to be published).

G.C. Dijkhuis, *Ball Lightning as Thermodynamic Limit of the Periodic System*. In: The Atmosphere and Ionosphere: Dynamics, Processes and Monitoring, eds. V. Bychkov et al., Springer Verlag, June 2010.

G.C. Dijkhuis, *On 3D Potential Field Solutions for Atmospheric Charge Distributions*. In: Proc. Progress in Electromagnetic Research Symposium (PIERS), Xi'an, China, 22-26 March 2010.

G.C. Dijkhuis, *On Potential Flow Solutions from the Division Algebras*. In: Proc. 6th European Symp. on Aerothermodynamics of Space Vehicles, ESA SP-659, January 2009.

A. Fridman, *Plasma Chemistry*, Cambridge University Press, 2008

H. Kikuchi, *Electrohydrodynamics in Dusty and Dirty Plasmas*, Kluwer Academic Publishers, 2001.

G.C. Dijkhuis, *Cold Fusion Process in Dense Boson Plasma*, European Patent 0 422 057 B1, 1990.

G.C. Dijkhuis and J. Pijpelink, *Performance of High-voltage Test Facility Designed for Investigation of Ball Lightning*, Science of Ball Lightning (Fire Ball), ed. Y.-H. Ohtsuki, World Scientific, Singapore, 1989.

J.B. Pendry et al., *Low frequency plasmons in thin-wire structures*, J. Phys. Condens. Matter 10, 1998.

G.C. Dijkhuis, *Method and Apparatus for Creating and Maintaining a Self-supporting Plasma Ball*, European Patent 0019 668 B1, 1985.

G.C. Dijkhuis, *A Model for Ball Lightning*, Nature, Vol. 284, 1980.

S. Singer, *The Nature of Ball Lightning*, 3rd printing, Plenum Press, 1978.