



## COMPANY DESCRIPTION

# PHOTOCAT

NOVEMBER 2015

**Prepared with the application for admission to commence trading of shares in  
Photocat on Nasdaq First North**

Important information about First North. First North is an alternative marketplace operated by an exchange within the Nasdaq group. Companies on First North are not subject to the same rules as companies on the regulated main market. Instead they are subject to a less extensive set of rules and regulations adjusted to small growth companies. The risk in investing in a company on First North may therefore be higher than investing in a company on the main market. All companies with shares traded on First North have a Certified Adviser who monitors that the rules are followed. The Nasdaq OMX Stockholm approves applications for admission to trading.

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## INFORMATION ABOUT THE SHARE

Photocat A/S has been approved to list its shares on Nasdaq First North and commence trading on 20 November 2015.

Redeye AB is the company's Certified Advisor and Remium is its Liquidity provider.

Number of issued shares:	1,980,598
First day of trading:	20 November 2015
Ticker symbol:	PCAT
ISIN-code:	DK0060668796
Interim report January-September 2015:	25 November 2015
Year-end financial communiqué:	25 February 2016
Annual General Shareholders' Meeting:	25 May 2016

# IMPORTANT INFORMATION

This Company description (the "Company description") has been prepared in connection to the listing of the common Shares on Nasdaq First North in Sweden on 20 November 2015. The Company description does not constitute a prospectus since it has not been prepared as part of an offering. Consequently, the Company description has not been subject to any review, nor has it been approved and registered by the Swedish Financial Authority according to the provisions in 2 Ch. 25 and 26 §§ in the Securities Trading Act.

Photocat A/S cvr no 32357903 is referred to in this document as "Photocat" or "the Company", any reference to "Euroclear" refers to Euroclear Sweden AB, organization number 556112-8074, and references to Nasdaq First North refers to the multilateral trading facility operated by Nasdaq OMX Stockholm AB, organization number 556420-8394.

## APPLICABLE LAW

Swedish law is applicable for this Company description. Disputes regarding the Company description and there by applicable legal circumstances shall be handled by Swedish law exclusively.

## INVESTMENT IN SHARES

An investment in shares is associated with certain risks (further described in the section "Risk factors"). When an investor makes an investment decision, he or she must rely on his or her own analysis of Photocat including, but not limited to, the merits and risks involved. An investment decision shall be based solely on the information in the Company description, the documents incorporated herein, and any possible supplements hereto. Potential investors ought to consult their own professional advisors to diligently evaluate an investment consideration.

## FORWARD-LOOKING STATEMENTS

The Company description contains forward-looking statements and information. All statements, other than statements of historical fact, are forward-looking statements. Forward-looking information includes, but is not limited to, statements with respect to potential development scenarios. Generally, forward-looking statements can be identified by the use of forward-looking terminology such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or statements that certain actions, events or results "may", "could", "would", "might" "potentially" or "will be taken", "occur" or "be achieved". Forward-looking statements are based on at the time of the Company description current expectations, beliefs, assumptions, estimates and forecasts about the business and the industry and markets in which the Company operates and are subject to known and unknown

risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information including, but not limited to, risks and uncertainties relating to, among other things, changes in commodity prices, currency fluctuation, financing and related economic risk and unanticipated environmental impact on operations and other risks and uncertainties described under the heading "Risks Factors" in this Company description. These factors are not exhaustive. Although the Company has attempted to identify important factors that would cause actual results to differ materially from those contained in forward-looking information, there may be other factors that cause results not to be as anticipated, estimated, or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. A potential investor should not place undue reliance on forward-looking statements and information, which are qualified in their entirety by this cautionary statement. These forward-looking statements, as well as other information in the Company description, are made as of the date of the Company description. The Company expressly disclaims any intent or obligation to update these forward-looking statements or any other information in this Company description, unless specifically stated otherwise and except as required by applicable law, regulation or listing agreement

## FINANCIAL AND LEGAL ADVISORS

Redeye AB is the Company's financial advisor and Certified Advisor, and have assisted the Company with the preparation of this Company description. LETT Law firm is legal advisor to Photocat regarding Danish law, The information contained herein is based on the Company's own information and information from other sources that Photocat considers to be reliable. Neither Redeye or LETT nor any of its affiliates accepts any responsibility whatsoever for the contents of the Company description or for any statement made or purported to be made by it, or on its behalf, in connection with the Company or the listing of its shares on Nasdaq First North. Redeye and its affiliates accordingly disclaim all and any liability whether arising in tort, contract or otherwise which they might otherwise have in respect of this Company description or any such statement. No representation or warranty, express or implied, is made by Redeye or its affiliates as to the accuracy, completeness or sufficiency of the information set out in this Company description.

## PUBLICATION

The Company description is readily available on the Company's website [www.photocat.net](http://www.photocat.net)

## RISK FACTORS

*An investment in securities involves a significant degree of risk. The Company's business, operating results or financial position may be adversely affected by a number of risk factors which are beyond the control of the Company. The Company is exposed to a number of risks inherent in its field of business. Risk factors deemed to be of particular significance to the future prospects of the Company are described below. The risk factors described below are not exhaustive. The Company's business, operating results and financial position may also be materially adversely affected by other risks and uncertainties which are currently unknown to the Company, or which are currently not viewed as material. Further, risks are not ranked according to degree of importance. Nor do they indicate how significant the impact could be on the Company's operations. The risk described herein should also be considered in connection with the other information included in the Company description and the macroeconomic environment, as well as the cautionary statement regarding forward-looking information set forth in the Section "Important information" above.*

### **RISKS RELATING TO PHOTOCAT**

The operations of the Company are speculative due to the high-risk nature of its business. Material risk factors and uncertainties, which should be taken into account when assessing the Company's activities, include, but are not necessarily limited to, those set out below. Any one or more of these risks and others could have a material adverse effect on the Company.

### **RISKS RELATING TO THE BUSINESS**

#### ***Cash flow***

The Company is changing from an R&D oriented business model to a commercial business model. In this effort the Company's costs and expenses as well as investments are planned to increase. Should the revenues needed to cover the cash out-flow require more time to materialize, then the Company eventually will require additional financing. Until such financing has been secured, the Company would need to reduce its expansion efforts. This may have an adverse effect on the Company's business, and results of its operations.

#### ***Financing Requirements***

Additional financing may not be available when needed or, if available, the terms of such financing might not be favourable to the Company. A failure to raise capital when needed would have a material adverse effect on Photocat's business, financial position and results of operations.

#### ***Dependency on certain customers***

Photocat's revenues are, in the Company's present development phase, currently dependent on a limited number of key customers. This is especially true for the flooring segment where the Canadian flooring company Lauzon currently represents the vast majority of sales revenues for this business segment. Should the relationship with Lauzon come to a sudden end that may adversely affect Photocat's business, financial condition and operating results.

#### ***Competition in the Industry***

Photocat develops, produces and markets a range of photocatalytic products, and consequently faces different types of competitors. Although the Company strives to maintain and strengthen competitiveness going forward, it may be adversely affected by its competition. Further more, the Company has limited resources to respond to competitors' strategies to gain market position, such as pricing strategies.

#### ***Product Prices***

Photocat seek to develop high value-added products that shall remain cost efficient. However, the Company is subject to competition in its markets, and a strong downward pressure on prices may seriously affect the ability of the Company to secure profits. Being a small company it is more difficult to apply economies of scale to compensate downward price pressure. Hence, the Company is vulnerable to pricing and associated strategies.

#### ***Raw Material***

Photocat is dependent on supply of special grades of titaniumdioxide, which is available from several suppliers. However, should such products be discontinued or if prices were to increase substantially, it would negatively affect Photocat's business as it is likely to affect the Company's gross margin and overall profitability.

#### ***Barriers to International Business Operations***

One of Photocat's business strategies is business expansion in overseas markets such as Mexico, Canada and Germany. In these markets, Photocat may face various political, economic and legal barriers such as, political risks, economic uncertainty, legal differences and barriers related to business practices, that may affect the Company's business, financial condition and operating results

### ***Importance of Technological Innovation***

Technological innovation driving development of new technologies and products are critical to enable sustained growth and enhance competitiveness of Photocat. Inability to respond suitably to changing market needs in the future may affect the future growth and profitability of the Company as customers may turn to other suppliers.

### ***Key personnel and recruiting human resource***

Photocat is a knowledge-driven company and as such human resource is a critical asset. The continued success of the Company depends on the continuous contribution of its human resources to the Company. The Company strives to strategically acquire talented human resource. If the Company cannot acquire or lose talented human resource, the Company's business, financial condition and operating results may be adversely affected.

### ***Intellectual property rights and company secrets***

Photocat's intellectual property rights (IPR) and company secrets are protected by patents, trademarks, applicable laws and legal contracts. Unless the Company can maintain proper intellectual property protection or properly protect future products, this may adversely affect the Company's business, financial position and operating results. The Company may be adversely affected should there be a breach of its current intellectual property protection or vice versa.

## **RISKS RELATED TO OPERATING ENVIRONMENT**

### ***Changes in Economic Situation***

Demand for Photocat's products and services may be affected by general economic trends in the countries or regions in which they are sold. Economic downturns and resulting declines in general demand in markets where Photocat operates may adversely affect the Company's business, financial position and operating results.

### ***Currency Exchange Rate Fluctuations***

Photocat is exposed to several currencies. Operating costs and expenses are predominately DKK whereas revenues are exposed to foremost EUR, USD, CAD and SEK. Consequently, foreign exchange rate fluctuations may adversely affect the Photocat's business, financial position and operating results

## **RISKS RELATING TO AN INVESTMENT IN THE COMPANY'S SHARES**

### ***Market Price of Shares***

An investment in the Company shares is associated with a high degree of risk, and the price of the Shares may not develop favorably. The share price will be influenced by the economic climate, market interest rates, capital flows, political uncertainties and market sentiment. Securities of early stage growth companies have experienced substantial volatility in the past. Other factors unrelated to the performance of the Company that may effect the price of the Shares include: analytical coverage of the Company may be limited that in turn may adversely affect share liquidity and general market interest that may affect an investor's ability to trade larger volumes of shares in the Company.

### ***Risks Related to Illiquid Trading and the Listing***

It is not possible to anticipate the degree to which investors' interest in Photocat will lead to active trading in its Shares or how trading in the Shares will function in the future. Should active and liquid trading not be sustained, holders of Shares may experience difficulties in selling Shares, either momentarily, or completely. If there are not a sufficient number of holders of Shares traded on Nasdaq First North Stockholm, the Company may not be able to comply with the listing requirements of Nasdaq First North Stockholm, requiring that there shall be sufficient liquidity in order to facilitate orderly trading and an efficient price formation process. In the event that the Board of Directors would consider the listing as inappropriate based on, for example, economical, financial or political terms, the listing application may be withdrawn by the Company.

### ***Risks Related to Dividends***

No dividends on the Shares have been paid by the Company to date and the Company does not intend to declare or pay any dividends in the foreseeable future. The Company is in an early development phase and as such profits may need to be accumulated and used to reinvest in the Company's operations. Hence, the Company may not be able to pay dividends to its shareholders or holders of Shares now or in the future. Payment of any future dividends will be at the discretion of the Board of Directors after taking into account many factors, including operating results, financial condition, and current and anticipated cash needs.

# BACKGROUND AND MOTIVE

## BACKGROUND AND REASONS FOR THE LISTING

Photocat is a Danish environmental technology company that uses photocatalysts harnessing the power of light to create a clean environment. The Company focuses on removal of pollutants such as nitrogen oxides (NOx), through photocatalytic materials.

The research and development began in 2005 with the aim of establishing a unique position in the growing market of photocatalytic materials. Since then substantial R&D has been carried out and altogether more than DKK 85 million has been invested. The project, originally commenced in the Danish research company SCF Technologies, was acquired and transferred to Photocat A/S that was founded in 2009 by managers and scientists behind the photocatalytic project.

Up until now Photocat has primarily been research oriented but is now in the process of shifting to a commercial focus. The majority of the Company's orders until 2014 have been of evaluation character and as such limited in size.

Today Photocat has proven that the Company's proprietary technology offers higher efficiency in reducing airborne NOx and VOC's to known competing products.

Photocat holds the right to within its focus area to exclusively commercially exploit 31 approved patents and 53 pending patents worldwide that protect its technology and applications.

Photocat is receiving feedback that demand is growing and consequently Photocat is mobilizing its capabilities to answer to the increasing demand and how best to expand the reach of its products.

The Board of Directors has filed an application with Nasdaq First North in Stockholm to have its shares admitted to trading. Companies on Nasdaq First North are subject to a less extensive set of rules and regulations that has been adjusted to small growth companies. Estimated first day of trading on Nasdaq First North Stockholm is on or about November 20, 2015; assuming Nasdaq First North Stockholm approves the listing. The listing is conditional upon Photocat meeting Nasdaq First North Stockholm's ownership distribution requirements and that no circumstances arise pursuant to which the realization of the listing would be considered inappropriate by the Board.

The Board of Directors of Photocat believes that the admission of Photocat's shares on Nasdaq First North will have a positive impact on the Company's future development. The Initial Public Offering will broaden its shareholder structure and facilitates access to the capital markets if this should become necessary to support the Company's future expansion. Furthermore, the listing of the Company's shares is also believed to increase the public awareness of Photocat and its business among existing and potential new customers, partners, suppliers and other interested parties. These factors are expected to contribute jointly to further strengthen the company's position in its markets, and thus constitute a good platform for future growth.

The Board of Photocat is responsible for the contents of this Company description. The Board hereby declares that, having taken all reasonable care to ensure that such is the case, the information contained in this Company description is, to the best of its knowledge, in accordance with the facts and contains no omission likely to affect its import.

Roskilde, November 2015  
Photocat A/S  
The Board of Directors

## STATEMENT FROM THE CEO

In 2005, we started developing our first photocatalytic products leading to our first patent filings in 2007. In 2009, Photocat was founded, and we discovered that by our technology it was possible to achieve ten times more capacity in reducing pollution than current technologies. Since then we have used five years on expanding our technology platform and our patent portfolio. In 2012/2013 NOxOFF, our air-cleaning product for use in the cities, was proven by real life studies at the Copenhagen Airport. The study showed that it was possible to remove up to 24 percent of pollution in the daytime and 13 percent overall. This was sufficient to reduce the NOx level below the threshold value. This case showed that NOxOFF can be a very important addition to help cities struggling with severe pollution to reduce the level of NOx.

Our focus is on creating products that improve the air quality for people amongst other living in areas that are heavily trafficked. In 2014, OECD published a book named "The Cost of Air Pollution" it is the most extensive research I have seen. OECD quantify the health cost associated to an astounding USD 1.7 trillion of which half is due to road transport. If we can decrease air pollution, and we can, then there is a clear cost-benefit for all countries to do so. Recently, another report was published focusing on China, it is clear to most how huge a market China is just due to its huge population size, but it also happens have some of the most polluted cities in the world. It is so bad, that on average each person is effectively smoking 40 cigarettes per day.

Last year Photocat introduced its solutions in three market segments: bitumen roofing, concrete and hardwood flooring. The interest from the customers has been good, yet the market demand comes primarily from governmental, municipal and green profile building owners. It takes time to achieve real sales volume in each segment. In flooring the consumer market has larger influence than in the other segments. We have also started targeting the political scene in both Denmark and Mexico with the aim of getting faster market uptake. Mexico is

on the forefront of implementing photocatalytic surfaces to their infrastructure. Mexico City is one of the first major cities to commission major air quality initiatives, including photocatalytic facades. The Mayor even publicly declared that photocatalytic facades should become obligatory.



Looking forward there is no denying that there is a clear need to build awareness and establish market acceptance. We have to strengthen our market and public affairs activities in the coming years in order to reach satisfying volumes. We also work on optimizing our sales organization, getting the first sale to any customer is taking too long: Therefore the sales process is being reviewed to better understand how to motivate manufacturers to commit stronger to the sustainable concept we offer. Becoming a listed company on Nasdaq First North is a step in the right direction as it lays the foundation for further growth by enabling us to strengthen our team and focus more on the market and public affair activities.

I believe that we hold part of the solution to one of the most important problems in our world today and we aim at being the leading company in the world within photocatalytic technologies. With a focused effort, we can create value for our customers and society by improving the air we breathe and a direct consequence of that will be a foundation that creates lasting value and growth for Photocat and its shareholders.

**Michael Humle, CEO**

# INDUSTRY OVERVIEW

The following industry overview describes the Company’s market in terms of size, development and prospects for future growth. The information contained in the Section below originates from Photocat, unless expressly stated otherwise. The Company has obtained this information from several sources, including industry publications and market surveys from third parties as well as publicly available information. Although the industry publications state that they are based on information obtained from several different sources and using various methods that may be deemed reliable, the information may not be correct and complete. Industry forecasts are by their nature subject to considerable uncertainty, and such forecasts may prove to be incorrect. Information from third parties has been correctly reproduced and, as far as the Board of Directors is aware and is able to warrant through comparisons with other information published by the third party concerned, no information has been omitted in a way that would make the reproduced information incorrect or misleading.

Photocat is engaged in environmental technology that adds new properties to materials in order to support reduction of nitrogen oxide gases (NOx) and promote self-cleaning surfaces.

## INTRODUCTION TO THE ENVIRONMENTAL TECHNOLOGY

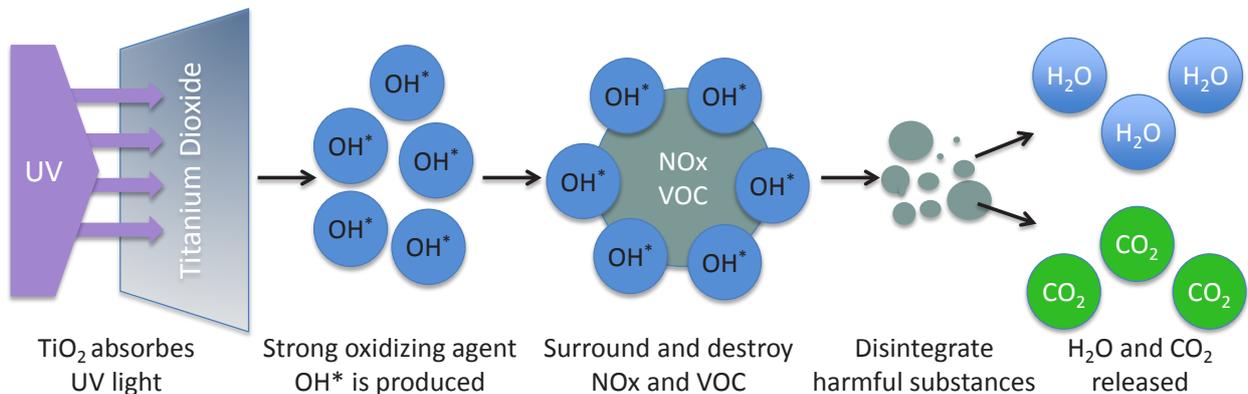
Emission from the transport sector has an alarming impact on the overall air quality because of its rapid growth rate. In 2014 OECD wrote a report on this “The Cost of Air Pollution”, a staggering USD 3.5 trillion is the yearly world cost of air pollution for OECD, India and China combined, approximately USD 1.7 trillion of this is due to road transportation. WHO also estimated in 2014 that the yearly mortality due to air pollution is 3.7 million, which is 8.8 percent up from the estimate found in 2012. This makes it the biggest environmental cause of premature deaths in the world.

The main source of NOx emission in Europe is from transportation that represented 46 percent of the total NOx gas emission in 2008. The increasing adverse impact of these pollutants on urban air quality and

harmful consequences on building materials has lead to the European Directives imposing limits on NO<sub>2</sub> concentration in 2010. The hourly and yearly limits entered into force are 200 micrograms per cubic meter of air (“ug/m<sup>3</sup>”) and 40 ug/m<sup>3</sup> per hour and year respectively. The hourly value should not be exceeded more than 18 times on a yearly basis.

Photocat’s technology is based on heterogeneous photocatalysis has proven a promising method to reduce NOx gases. When sunlight (UV-light and part of the visible light) hits the photocatalytically active form of titanium dioxide (TiO<sub>2</sub>) it starts to decompose NOx gases and other pollutants.

### THE PROCESS OF PHOTOCATALYST ACTION



## TECHNOLOGY APPLICATIONS

The photocatalytic technology offers a broad spectrum of applications as it can efficiently decompose all organic materials as well as some inorganic materials such as NO<sub>x</sub>. Early on areas of applications included deodorization of indoor environments and water purification. However, the largest area of application has been the self-cleaning window glass and self-cleaning facades thanks to the hydrophilic properties of photocatalytic TiO<sub>2</sub>. In recent years using photocatalysis for air purification has also proven to be effective. However, large scale production of highly active photocatalytic building materials has until now been very costly, limiting the application to high value products.

There are four known processes to produce stable dispersions of photocatalytic active titanium dioxide with an even distribution of particle size. These processes are:

### 1. Sol-Gel process

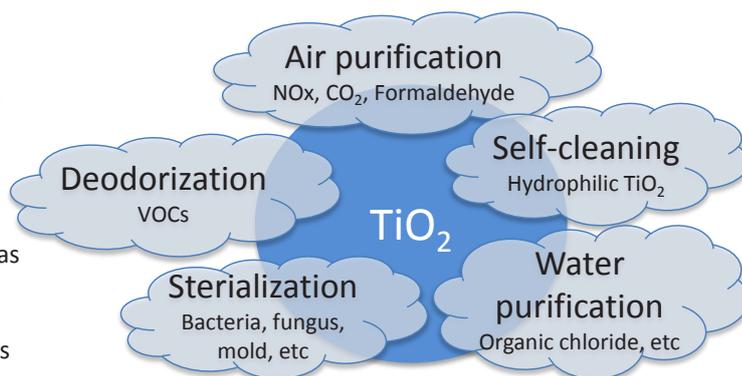
Sol-Gel was the first process to really hit the market. This technology uses pre-cursors and forms the titanium dioxide directly in the dispersion. This gives good distribution and good quality, but the process is expensive as it can only be produced in low concentrations.

### 2. Supercritical fluid production

Supercritical fluid production offers highly effective dispersions but it is very costly to produce. Consequently, this production method is only suitable for very high value applications.

### 3. Ultrasonic milling

Ultrasonic milling is applicable on dry media and offers the possibility to work in high concentrations and reduce particle size. However, this method is not suitable for titanium dioxide.

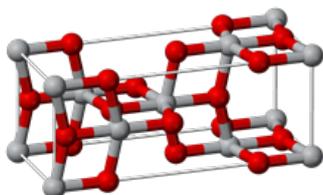


### 4. Photocat process

The core of the process is preparing a dispersion which could be wet grinded in pearl mill and maintain the correct particle size distribution. The process of using wet grinding is familiar within the paint industry but is not commonly used to make stable photocatalytic active dispersion with very small particle size. This makes the dispersion transparent, colorless and highly active at a very low cost per volume unit.

Furthermore, Photocat's ability to implement photocatalytic particles in material surfaces and get highly active building material compounds (air purifying effect) whilst maintaining the original visual impression of the surface makes the technology offer from Photocat attractive to the industry

Consequently, Photocat's production process enables large-scale production of highly effective yet stable dispersions at a low price per unit. As a result, it is now possible to get outdoor surfaces with efficient air purifying properties at low cost. Today Photocat is a leading company on how to apply and get photocatalytic surfaces within the bitumen membrane and concrete industry for outdoor environments. Also, Photocat has successfully developed applications for acrylic coated surfaces with deodorizing properties.



Active form of TiO<sub>2</sub>: Anatase

TiO<sub>2</sub> is naturally occurring, inexpensive, chemically stable and harmless and has been frequently used as white pigments. The photocatalytic mechanism was discovered in 1972 by Professor A. Fujishima and Professor K. Honda from University of Tokyo (A. Fujishima and K. Honda, *Nature*, 238, 37 (1972)). They were the first to successfully split water molecules by photoelectrochemical decomposition of water under irradiation with light and without any applied electric power using a photocatalyst and sun light. However it was not until the group under Prof. A. Fujishima discovered the direct self-cleaning effect of the photocatalytic technology in the 1990's that the technology became commercial.

## THE MARKET - SCOPE AND SIZE

In spite of being a fairly well established technology, the commercial applications are still at an early stage and there are no sources for exhaustive market statistics. However, the scope of this business is truly global and several industry players are multinational corporations. In 2009 BCC Research estimated a total market of USD 847.5 million. The report further estimated that the market would grow to USD 1.6 billion by 2014 and in Europe alone they estimated it to be EUR 425 million. The potential however, both in regards to applicable surfaces and the amount of production volumes and in regards to what is needed to reduce air pollution is substantially higher.

The total volume of TiO<sub>2</sub> for photocatalytic applications sold in Europe is approximately 350-500 tons per year, according to Thomas Cerny, President of the lobby association Titanium Dioxide Manufacturers, TDMA. TiO<sub>2</sub> is used in a variety of different application areas. The properties of TiO<sub>2</sub>, are typically split between catalytic-, UV absorption- and pigment purposes. For Photocat the primary focus is on using the TiO<sub>2</sub> as a catalyst.

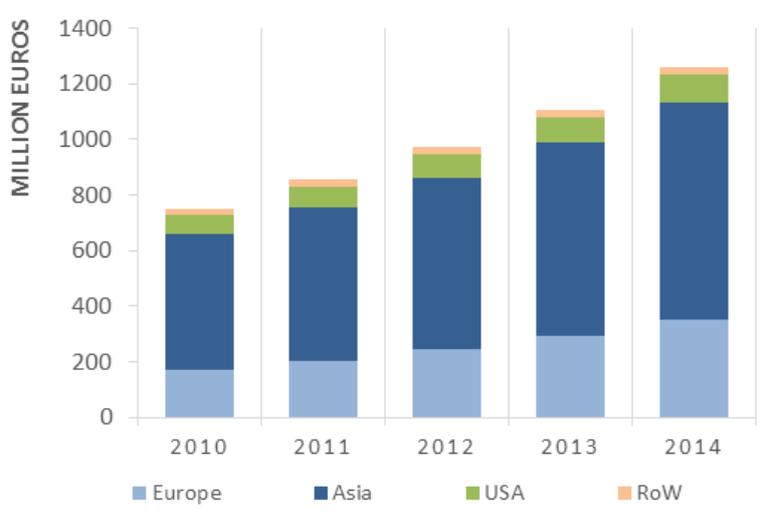
As of today, this is the main application of the photocatalytic property. Looking at the entire TiO<sub>2</sub> market, the bulk is used as a white pigment in all kinds of products, this is however, a mature market many times the size of the 350-500 tons annually, mentioned above.

### PHOTOCATS SEGMENTS

Photocat has developed a range of products for different application areas. These are primarily: concrete pavements, bitumen roofs, roof and garden tiles, wood and laminate floors, glass coating and façade concrete. The company is primarily targeting the segments where efficient reduction of NOx and VOCs are desired. The segments with the best potential in the short to medium term are bitumen roofs and concrete pavements for NOx reduction and wood and laminate floors for the reduction of VOCs.

For several of these application areas, the market is untouched or very early stage in regards to photocatalytic properties. An overall 1 percent penetration would mean revenues of several hundred million EUR per year. The interest in using TiO<sub>2</sub> to reduce air pollution is growing in Europe since many city

### WORLDWIDE MARKET FOR PHOTOCATALYTIC SOLUTIONS BY SECTOR



Market data provided by BCC Research LLC.

areas are battling the problem of smog and a constant increase in the number of cars and trucks. A good example is the city of London, which recently lost in highcourt to an NGO for having too high concentration of toxic particles in the air. This event has triggered a large public discussion around city air pollution, and many organizations are working towards a cleaner London. However, it is still at a very early stage, most cities are focusing on mapping the extent of air pollution. A number of companies have been marketing products as “air-improving” by reducing NOx, and they are gradually gaining traction. Several cities in Europe are not meeting the levels for hazardous NOx concentration set by EU authorities. This has opened up an opportunity for these companies to market their products. With an also increasing amount of research from organizations such as OECD and WHO as well as academic literature, there is an increasing amount of material on the negative effects of air pollution and the quantitative effect relating directly to each country’s balance sheet. The value proposition of such technologies is therefore becoming more apparent for institutions, governments and companies.

One of the best-known commercial brands within cement application is TX Active, by Italcementi. It is a quality brand, introduced in 2006, and is being used by several manufacturers in Europe. Bitumen roofing products have also been commercially available for some years now, one of the industry leaders is the Danish company Icopal. Their brand, NOxite membranes, is part of their Eco-Active range of products, Icopal is a licensee and customer of Photocat, and was part of the test project at the Copenhagen Airport.

Southern Europe has seen a large number of photocatalytic structures built during the last ten years. In Italy 40 large paving areas have been applied with a photo catalyst. The reason is probably that Italcementi has focused on its home market. High irradiation makes the photocatalytic process more efficient. In Northern Europe the better known projects are; a parking lane in Antwerp in Belgium, the Castorweg road (1000 m2) the municipality of Hengelo in The Netherlands, a pavement area in Lysegrå Malmö in Sweden and a few small structures in Germany comprising outdoor roof applications based on Heidelberg’s product TioCem™, which is licensed from Italcementi

## TOTAL POTENTIAL IN SQUAREMETERS BY CATEGORY

*Estimated volume per year*



## INDUSTRY DRIVERS

A number of research projects and on site tests and evaluations have been conducted over the last decade in several countries including: Netherlands (Castorweg – Hengelo 2008-2011), Netherlands (Airport Schipol 2009-2010), England (London - High Holborn 2007-2010), Denmark (Copenhagen Airport – 2013), and Sweden (Malmö – Admiralsgatan 2009-2010). The activities have been initiated by research institutions, city authorities and commercial companies and in most cases a combination of all. The European Union has sponsored several projects and some are still running.

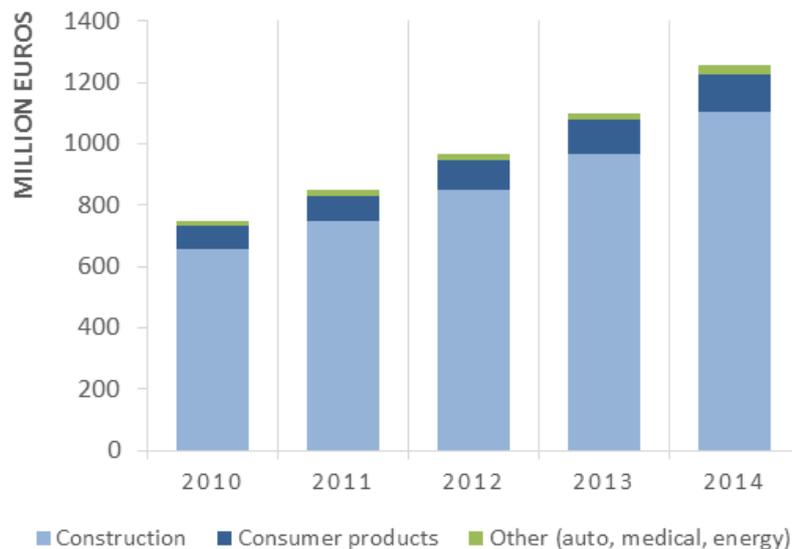
Photocat has joined the European Photocatalytic Federation (EPF - <http://www.photocatalysis-federation.eu/>) in order to keep an overview of the many projects and initiatives that are ongoing in Europe – commercially as well as scientifically. The European Photocatalytic Federation was started in June 2010 from the French Photocatalysis Federation (FFP) and is creating awareness around the photocatalytic technology. The new name accompanies broader European

and international recognition of the federation, with new partners in Belgium, Germany, Italy, Spain and the United Kingdom, contributing to the latest expertise on Photocatalysis of manufacturers, engineers, scientists, environmental professionals and users.

The EPF wins national and international recognition for Photocatalysis, by federating all parties participating in the development of this promising technology. More than 50 of the largest companies in Europe involved with photocatalysis as well as academic institutes are member of EPF.

At present EPF is focussing on supporting and facilitating new test standards for photocatalytic products. Furthermore, EPF is drafting a whitepaper on photocatalysis to be used all around Europe to answer the questions arising from customers and authorities using this technology. EPF is also involved in bringing attention to photocatalysis and passive air pollution control on EU level as well as monitoring and following the legislation work inside the EU.

## PHOTOCATALYTIC MARKET BY SEGMENTS



Market data provided by BCC Research LLC.

## COMPETITORS AND INDUSTRY PLAYERS

The market for photocatalytic TiO<sub>2</sub> is fragmented as the technology is applicable to a wide range of different surfaces and industries. The market is still in an early stage, with different production techniques, little documentation as to the environmental effect and products just recently entering the commercialization phase. Several of the mentioned market players, are both competitors and business partners, supplying different production materials or having license agreements.

**Toto** from Japan is one of the global leaders in photocatalyst technology. Toto Hydrotect is a division and brand that started in 1998 and is now present on a global scale. In 2013 Totos revenues from this segment was approximately 10 Billion Yen in 2013 (80 MEUR). Hydrotect has license agreements with a number of international clients, including companies like Saint Gobain, Pilkington and Alcoa. Their solution can be applied to a wide variety of building materials including: tiles, paint, iron- and aluminum-based metal panels, glass and architectural stone. The applications and marketing is however to some extent related to reducing odour from VOC's and the self-cleaning properties of glass coating. In the case of Alcoa's EcoClean brand, the emphasis is on reducing NOx in urban areas. Toto and Photocat have an agreement to collaborate on technology awareness in Europe. Toto has also tested some of Photocat's solutions and found them to be four times more efficient in reducing NOx compared to their own. Toto is listed on the Tokyo Stock Exchange: [www.toto.co.jp/en/](http://www.toto.co.jp/en/)

**Italcementi**, is an Italian company listed on the Milan stock exchange. It started developing TiO<sub>2</sub> additives to its cement products 20 years ago. In 2006 Italcementi launched TX Active which is now a brand and a trademark sold in Europe and North America. TX Active is licensed to a number of producers throughout Europe. [www.italcementigroup.com](http://www.italcementigroup.com)

**Cementa** (part of Heidelberg Group) has been selling photocatalytic cementitious products since 2007/2008 under the trade names TiOmix™ and TiOCem™. Both are based on Italcementi's TX Active that has been licensed from Italcementi to Heidelberg. Subsequently TioCem™ and TiOmix™ have been licensed to a series of SMEs and companies in both Germany and Sweden that are progressively taking up the Centre/North European market. Starka Betong Industrier is one of these SMEs and the executor of the demonstrator pavement area in Malmö where photocatalytic concrete pavers (EcoNox™) have been applied and studied. [www.cementa.se](http://www.cementa.se)

**Cristal Millenium** is a TiO<sub>2</sub> manufacturer and has a major role as the biggest supplier of TiO<sub>2</sub> for photocatalysis in Europe with their product range CristalACTiV™. The company has its major activity base in Japan and has focused on paint. Cristal is behind the project in Manilla with photocatalytic art coating of one of the most trafficked roads. This project is exhibited on Youtube: (Link <https://youtu.be/3nQqroEb5jo?t=27>). Cristal is estimated to produce over 100 tons a year of ultrafine photocatalytic grade. Cristal is registered under the Saudi company act and has headquarter in Saudi Arabia. [www.cristal.com](http://www.cristal.com)

**Evonik** is the founder of European photocatalytic particles and manufacturer of the reference P25 particle. This is to date still the particle that is used in scientific projects. Annual production of approximately 50 tons a year. Evonik is playing a leading role in the safety tests and evaluation pending with European authorities. Evonik is a German company listed on the main market in Frankfurt. [www.evonik.com](http://www.evonik.com)

**Sachtleben** is a combination of German / Finish company and has recently been sold to Huntsman. The photocatalyst Honeycomb has gained considerable market share and has captured the lotion and ointment market. Sachtleben produces more than 30 tons a year. [www.sachtleben.com](http://www.sachtleben.com)

**Huntsman** is a US based company that has entered the TiO<sub>2</sub> market as a result of its acquisitions of different chemical companies. It is a considerable and focused strategy to be part of scientific programs. The activity base for photocatalyst has primarily been driven out of the UK. The annual market output is around +10 tons a year. Listed on NYSE. [www.huntsman.com](http://www.huntsman.com)

**Kronos**, a US based company, has since the middle of the nineties also taken part of the market. Kronos has secured a right to use STO AG technology and claims that they are manufacturer of a visual light sensitive TiO<sub>2</sub> particle. The major market for Kronos is concrete, coating and special applications. Listed on NYSE. [www.cronostio2.com](http://www.cronostio2.com).

**Impresa Bacchi** is one of the leading Italian companies in civil, industrial and infrastructure building. Recently it has launched Coverlite, an innovative photocatalytic technology for road paving in asphalt. Coverlite is a micro-emulsion water-based polymer mixed with titanium dioxide, premixed and ready for use, which gives high photocatalytic properties to the asphalt flooring. [www.impresabacchi.it](http://www.impresabacchi.it)

# OPERATIONS OF PHOTOCAT

## BUSINESS IDEA

Photocat is an environmental technology company that uses photocatalysts harnessing the power of light to create a clean environment. The Company focuses on removal of pollutants such as nitrogen oxides (NOx), through photocatalytic materials

## BACKGROUND

The company is based on research and know-how in photocatalytic processes using primarily TiO<sub>2</sub> as a catalyst for reducing harmful NOx and VOCs (e.g. formaldehyde). Photocat began its development and application in 2005 with the aim of establishing a unique position in the growing market of photocatalytic materials. The initial focus was to develop products for aftermarket treatment of glass. The Company then developed a solution for laminate floors in 2011, which is marketed by Välinge Innovation. Today the product offering covers glass, laminates, wood, concrete and bitumen, but is ongoingly testing a wide variety of other surface materials within flooring, roofing and facades.

Substantial R&D has been carried out since 2005 and altogether more than DKK 85 million has been invested. Different additives were tested in order to make the TiO<sub>2</sub> more efficient in the photocatalytic process. More than 2.500 tests has been carried out, and one of Photocat's key strengths is their ability to tailor their photocatalytic solution for each surface type, ensuring a higher ROI for each of their customers. The solutions are tailored for each customer and area of application, factors such as application methods, weather conditions, irradiation and surface material are taken into consideration to ensure a high quality product.

Up until now the company has primarily been research oriented but is now in the process of shifting to a commercial focus. Photocat has some large companies with substantial potential as clients. However, most of their orders until 2014 have been of limited size. They

have mainly been for testing purposes, when the clients are integrating Photocats dispersions into their own products such as bitumen roofs, concrete tiles, laminate or wood floors. Both their aftertreatment solution and flooring customer is experiencing traction.

Lauzon flooring for example recently communicated a higher than anticipated demand for their products, seeing a quarterly increase of 25 percent, consequently sales to this segment is expected to increase. The aftertreatment of garden tiles has also seen a quick and strong development in Denmark. The sales initiative has proven to capture a large part of the home market for concrete tile sealers and potential distributors in other European countries have taken an interest for the product. As a result, Photocat is developing a strategy how best to expand the reach of this product.

Photocats technology has documented high efficiency in reducing airborne NOx and VOC's. The company has developed a proprietary method for producing particle sizes of less than 100 nm which gives a larger surface area and hence better efficiency in the photocatalytic process. This has been confirmed in a number of different tests carried out both in-house, on test sites and also by third parties. First in 2012 by Monier, the roofing division of Braas Monier Building Group listed on Xetra in Frankfurt, which found the product to be more than 40 times more effective than their current application. And in 2014 by one of the industry leaders, Japanese company Toto, which found Photocat's solution to be superior.

Photocat has within its market focus the exclusive right to use 31 approved patents and 53 pending patents worldwide. For detailed information on patent portfolio, see pages 31-32. The photocatalytic process with TiO<sub>2</sub> and Photocats proprietary technology is described in more detail on pages 8-9.

## IMPORTANT MILESTONES

2005

SCF Technologies A/S began its development and application with the aim of establishing a unique position in the growing market of photocatalytic materials.

2007

The initial focus was to develop products for aftermarket treatment of glass and a solution for laminate floors. Patent applications were filed in 2007 for these two products.

2008

Began development of floors for air purification together with Vålinge Innovation.

2009

Photocat A/S was founded in June 2009 by Henrik Jensen, Theis Reenberg, and Michael Humle. Shortly thereafter Photocat acquired the development division of advanced materials from SCF Technologies A/S, where the three founders were employed. All three are still shareholders of Photocat and holding key positions.

Photocat developed a proprietary production process that could lower costs with a factor of 10 per unit. This patent application was filed in 2009 and has been granted in 2014

2010

Founded Vålinge Photocatalytic AB (VP AB) together with Vålinge Innovation AB. VP AB is targeting the floor market. The first laminate floor with “sub-zero” formaldehyde emission was launched.

2011

Started development of all colors bitumen membranes with NOx degradation and in co-operation with Icopal started development of colored NOxite. The laminate solution was completed.

2012

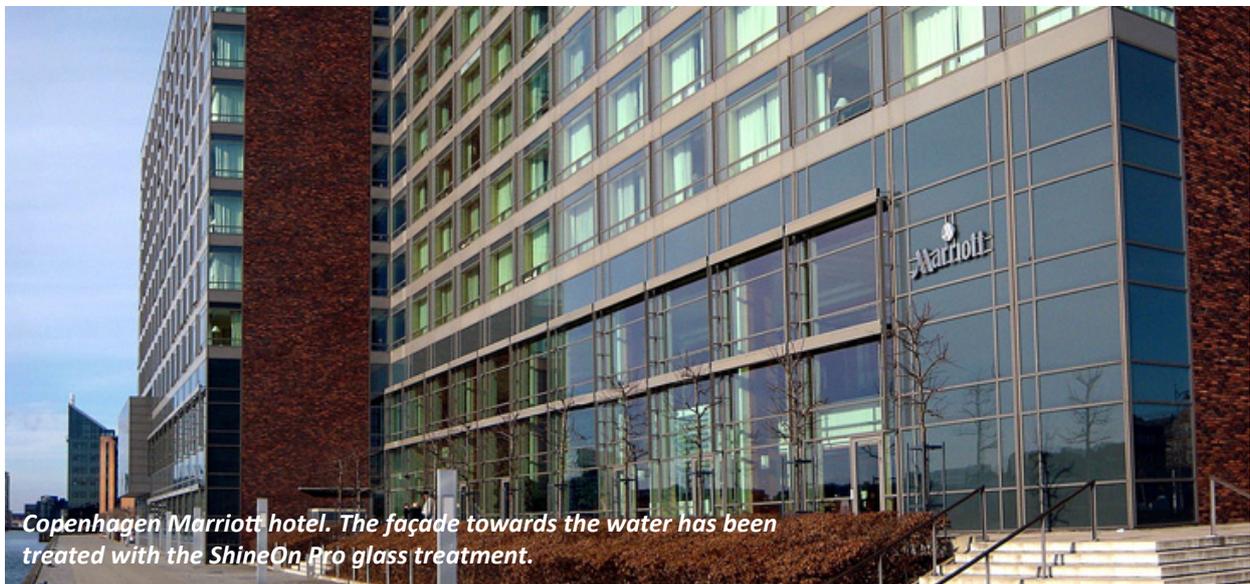
Photocat enters market for roofing products by releasing solutions for photocatalytic bitumen membranes in any color. The company moves from Symbion Science Park to Langebjerg, Roskilde in order to get larger production facilities.

2013

Photocatalytic solution for concrete is launched and Photocat demonstrates the efficiency in a real life impact study at Copenhagen airport for both concrete and bitumen solutions. NOx concentration was lowered by 13 percent overall and upto 24 percent during daytime.

2014

Photocats solutions was launched by customers in UK, Germany, US, Canada and Denmark.



## PRODUCT PORTFOLIO

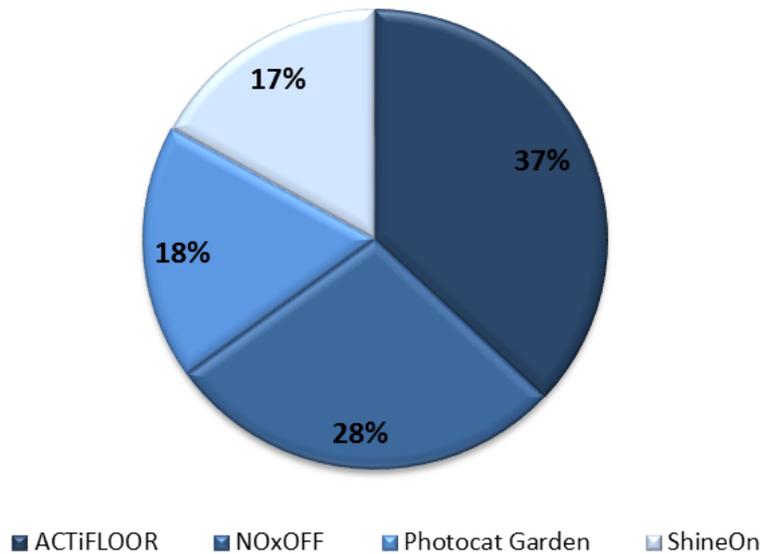
**NOxOFF™** is a brand offering documented ability to reduce NOx in ambient air. Photocat usually offers recipe and technology together with documentation of the efficiency. Once the specific product is “launch-ready”, Photocat becomes the supplier of its transparent solution that is designed specifically for its customer. In real life tests the product has proven capable of reducing the amount of NOx particles in the air upto 24 percent and convert them to nitrate. Documented by Copenhagen Airport, for concrete and bitumen. Customers include companies like Icopal and Quandt for bitumen as well as IBF and Gammelrand for concrete products.

**ShineOn™** is a brand that offers documented ability to make vertical glass surfaces self-cleaning. The solution is the first in the world to offer this documented effect for the aftermarket. Photocat offers this product to applicators and delivers education, brand material, pricing calculations and the catalyst materials. The solution has been documented to remove more than 85 percent of dirt, which is in full compliance with self-cleaning standards. Documented by the Danish Technical Institute.

**ACTi FLOOR™** is a brand aimed at degradation of VOCs indoor. The solution is available for indoor material producers such as flooring, wall panels, ceiling panels or similar. The delivery from Photocat includes the catalyst, which is made under a proprietary protected method. The product is today used by the Canadian company Lauzon. The product is tested by 3rd parties as well as by Photocat and has proven anti microbial properties reducing bacteria på more than 98 percent, it reduces NOx and formaldehyde, the latter representing the most critical to health, which is reduced på 85 percent.

**Photocat Garden™** is the latest addition to Photocat brand offering. The first product in the new line is a sealing product for concrete with Photocatalytic activity. The product launched in Denmark in 2015 and has already captured significant market share. The product offers besides standard sealing of concrete stones also the feature known in the NOxOFF™ range, but are directed towards application on produced and installed surfaces. One example of this is garden tiles. The product is sold to professionals within concrete treatment. Thus far in 2015 up to 40,000 sqm have been treated with Photocat Garden™.

## REVENUES BY APPLICATION AREA, H1 2015



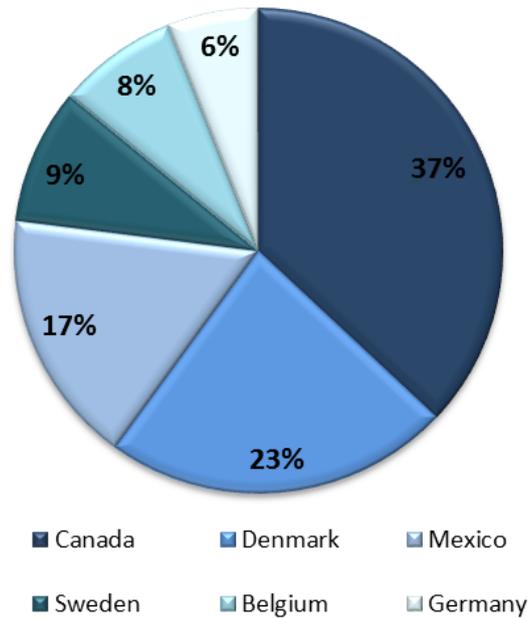
Revenues were fairly evenly distributed between the four application areas during the first six months of 2015. ACTiFLOOR and NOxOFF are however the dominating segments and are expected to be even more so in the next 1-2 years based on their current clients own forecasts. In addition, it is primarily within these areas of application that Photocat expect a growing demand as the EU is increasing the pressure on member states living up to the agreed air quality directive. The company is however expecting substantial sales growth in all four application areas, although Photocat Garden and ShineOn are at this stage less predictable since these products are to a greater extent sold via distributors. Consequently, Photocat has limited input from end users.

In June two new customers, IBF and Gammelrand, started production of concrete using the NOxOFF technology. Sales are in the early phase. One of the end customers was a public school in Horsens, a city in Den-

mark. The installation of the new environmental stones will create a cleaner environment for the children and the event achieved some media attention. Lauzon flooring has proven to be proactive client. After fully committing to Photocat's technology now it is found on all of their new products. They have been growing rapidly, seeing a quarterly growth of 25 percent. They are also initiating a nationwide marketing effort that is expected to result in a continued growth within this segment.

Photocat Garden has quickly gained traction in Denmark, having already delivered enough material to cover up to 40,000 sqm. Photocat now holds a large market share within materials being used for aftertreatment of concrete at private households. The product has created interest from international parties looking to become distributors. Photocat is currently evaluating the best way forward for this product and foresees that this product will continue to grow in the years to come.

## REVENUES BY COUNTRY, H1 2015



Canada, Denmark and Mexico made up for just over 75 percent of total revenues during the first half of 2015. Sales in Canada is equivalent to ACTIFLOOR and Lauzon which is driving growth in that segment and proofing to be a key customer and partner to Photocat. Mexico can also become important for the future growth of Photocat. The political environment in Mexico is positive towards photocatalysis, particularly because of the use of photocatalysis on the facade of the Manuel Gea Gonzales Hospital which spurred worldwide media attention. The project was led by a Berlin architect

company, Elegant Embellishments, with whom Photocat recently has commenced a cooperation. The new BBVA headquarter in Mexico that is under construction is also applying Photocat's products on some of their surfaces. Denmark has largely been driven by Photocat Garden, but NOxOFF products have also been sold. Danish concrete stone producers went live with production towards the end of the 2<sup>nd</sup> quarter. NOxOFF is expected to become the leading driver in the Danish market in the coming years.

## **BUSINESS MODEL,**

### ***Concept and strategy***

In general, Photocat offer their clients a package of know-how, implementation into production and most important product claims. This is wrapped into a license to use its technology. Further Photocat supply the photocatalytic materials for the licensees. The purpose is to protect the customer relations and retain long-term relationships as a material supplier. The business model is similar to that used by Japanese company Toto and Italian/German company Italcementi/Heidelberg. Photocat offer its customer to assist from the first idea tests to the final product produced at the customer's full-scale factory.

Today only Toto and Photocat are known as full service providers allowing customers to buy into concepts already working. Heidelberg/Italcementi offer patent protection as well as a cement mix containing photocatalyst.

The manufacturers of TiO<sub>2</sub> do offer the possibility to buy TiO<sub>2</sub> in photocatalytic grade and has done so for many years. The most famous one is the P25 from the company Evonik. These companies do however, not offer support to customers in the form of creating products with photocatalytic activity. Photocat has found that some of the attractiveness in its solutions stems from companies that for a while themselves have tried to make products based on titaniumdioxide powder with photocatalytic activity.

### **EXPANSION STRATEGIES**

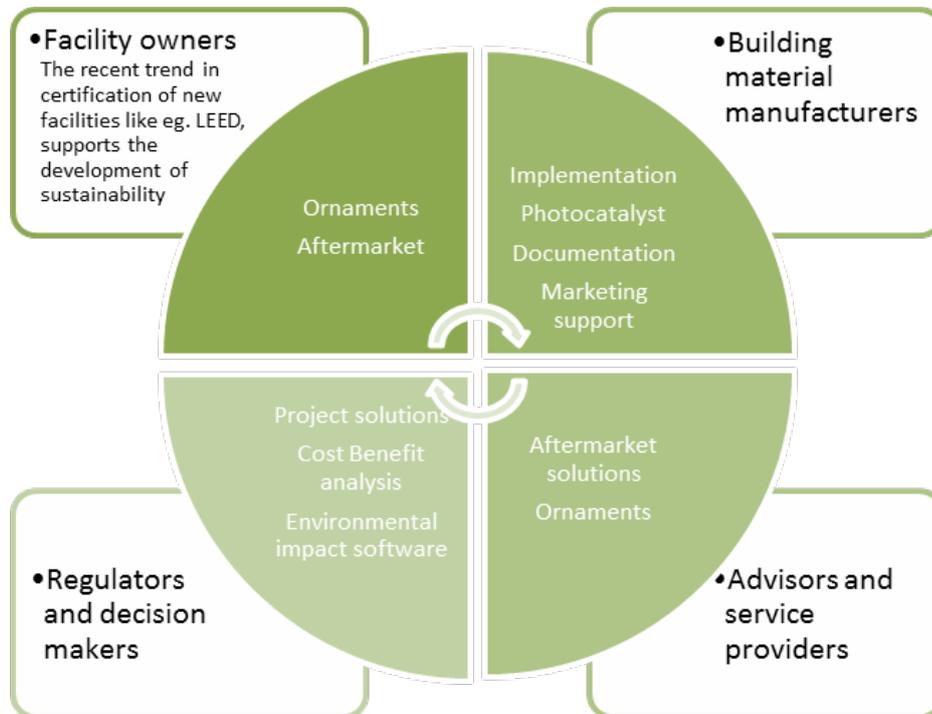
Photocat recognizes that the Company has a significant market opportunity and is planning accordingly. Photocat aims at strengthening its position in Europe. It will do this by catering to the bitumen and concrete segments, the ambition is that a strong foothold with European partners, that have international presence, will facilitate a further expansion to these segments in North America and key regions in emerging markets. Photocat is strategically targeting organizations and decision makers in Europe in order to create awareness and demand for the technology. Board member Thomas Becker, who has extensive experience from environmental politics in EU will lead this initiative.

Mexico and Canada have proven to be strong regions for Photocat, and is expected to remain so. The demand for photocatalytic technology in Mexico City is high and politicians are aware of the technology after several successful projects using such materials. Photocat has a strong position, and has partnered up with Elegant Embellishments. Together with Danish Industry ("Dansk Industri") Photocat has established strong partnerships with potential distributors in the region. Mexico City still is one of the most polluted cities in the world, and is a good testimonial to the technology and its effect on the environment. Through Photocat's close co-operation with Canadian flooring customer, Lauzon, the company reviewing an opportunity to establish a local production unit in Mexico in order to gain a strategic position to both South and North American markets. The focus in North America is to continue to supply and assist Lauzon. In the long-term Photocat aims at being present in several segments including flooring, concrete and bitumen. The latter two are, however, expected to be developed at a point when Photocat has established strong partnerships in this segment in Europe.

Photocat is also reviewing possible entry strategies to the Chinese market. China is one of the most polluted countries in the world, largely due to its reliance on coal plants that emit large amounts of NO<sub>x</sub> particles. A recent study by Berkeley professors concluded that Chinese pollution levels were equivalent to each person in the country smoking 40 cigarettes per day. There is a clear interest for photocatalytic products as the technology is used widely in Japan and therefore known in China. However, a large worry for Photocat is the possibility for IP violation. The company is in dialogue with potential Chinese partners, but the process is in its infancy and moving slowly.

## FOUNDATIONS FOR ADOPTED STRATEGIES

1. Photocat's marketing findings show that local authorities and building owners are interested in having buildings that also benefit the environment at a reasonable premium. Photocat has received confirmation that in certain cases up to 10 percent premium on installed cost could be acceptable to pay for materials having documented environmental benefits. Further, Photocat has found the market of concrete pavements and bitumen roofing to be driven strongly towards low prices by primarily installers and wholesalers.
2. Photocat has therefore from early 2015 started working on a push pull strategy aimed at creating higher awareness and desirability from building and facility owners. This activity is a large scale activity aimed at decision makers in the public sector as well as amongst key facility owners. This will be achieved by initiating a dedicated environmental stakeholder team that will drive the agenda. First outcome from the group has been to gather clear documentation for economic advantages for society for Photocat solutions.
3. Photocat aims at using its high performance and price competitive solutions to build partnerships with companies having documented ability to launch product from R&D and to branded products. One of these examples is Quandt Dachbahnen in Berlin. This company has shown ability to work with the process from development to marketing. Many of the companies in the Bitumen roofing industry is manufacturers with key focus on production prices and having me-too products. This segment represent second stage penetration for Photocat. A similar strategy is used in the concrete market.
4. To offer complete packages of better air quality / NOx reduction in cities Photocat will aim at offering both solutions to building materials, architectural solutions, ready to use ornaments and aftermarket solutions. The package will be completed by NOx air quality planning system that will assist decision makers in their specifications for tenders and quotations. In order to penetrate the concrete market a review of the market was initiated simultaneously with the launch of the solution on the Danish market.



## **OPERATIONAL OUTLOOK**

Looking forward the Company is expecting increasing order volumes from Lauzon flooring who has indicated a larger than anticipated demand for their product. As previously stated, Lauzon is seeing their sales grow by more than 25 percent the last three quarters and they expect this trend to continue. Lauzon did put forward an order in the 3rd quarter in line with previously described expectations.

Photocat is also in dialogue with several bitumen roof shingle manufacturers in Germany, Benelux, Russia and Scandinavia. They appear excited about the technology, but we are not seeing a willingness to push the products. The perception seems to be that the demand is low, and the manufacturers have let wholesalers take over the direct contact to end customers. There seems to be a need to further show the cost benefit of our solution, and consequently Photocat has started a process in which environmental authorities will test the bitumen solution further. This is expected to be concluded during 2015/2016 and the Company still believes that sales to the bitumen industry this year is possible, although it has proven more difficult than first anticipated to get the larger volumes. In addition to offering more documentation as to the effects of the solution, Photocat is committed to supporting its current bitumen partners in marketing.

In the concrete segment, Photocat is supporting its customer with marketing material and establishing dialogue with city councils undergoing reviews of which manufacturers to use when upgrading concrete stones in the city. Photocat is positive towards the possibility of its clients landing one or several contracts although such processes may be longer than anticipated, and would first yield order volume in 2016.

In August 2015 Photocat and Elegant Embellishment entered into a partnership. This allows both parties to market surface enlarged ornaments as seen in Mexico City on the Manuel De Gea Hospital worldwide. The designs make the building owners commitment to cleaner air highly visible. Prosolve370e is a world acknowledged design brand incorporating NOxOFF™.

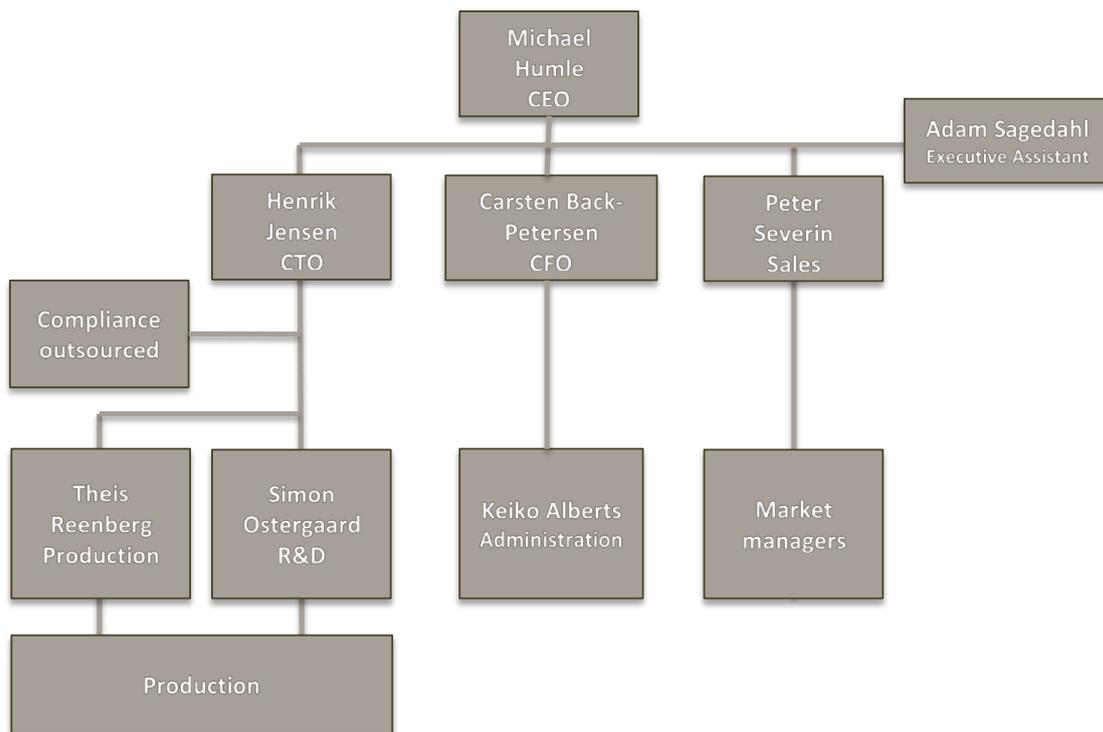
The brand family Photocat Garden was launched in Denmark during the spring of 2015. The products are aimed at professional service providers. These providers can improve their service to end-customers. The feedback thus far has been positive and therefore the company is looking at ways to expand the product line geographically.

## ORGANIZATION AND MANAGEMENT

Photocat today has 12 employees and operates a research & development facility, testing laboratory and production facility in Roskilde Denmark. The company also has a joint venture, VP AB, with Välinge International in Höganäs within the floor application area.

With the stronger capital foundation, the organization will be expanded within market access and sales. This organization strengthening has already begun by an experienced sales executive shaping up the sales team, while a renowned political negotiator is leading market access. The aim is that during 2<sup>nd</sup> half of 2015 the market access function will be built into a functioning team. The sales function will follow the access team and penetrate the market with sales ready solution.

### MANAGEMENT ORGANIZATIONAL CHART



## SELECTED FINANCIAL INFORMATION

The Company prepares its financial statements in accordance with Danish generally accepted accounting principles (“Danish GAAP”) as set out in the Danish Financial Statetements Act (“DFSA”). Accordingly, these consolidated financial statements have been prepared in compliance with DFSA.

This information should be read together with sections “Comments to the financial statements” and “Capital structure, indebtedness and related information”, the Company’s audited financial statements for the years 2012, 2013 and 2014 and the unaudited interim financial statements for the six-month period ending on 30 June 2015. In 2013 the company changed accounting policy whereafter development costs has been capitalized and amortized over expected useful life. These aforementioned financial statements have been incorporated into the Company description by reference (see Section “Documents incorporated by reference”).

This section provides a summary of the Company’s financial performance and position. The financial information presented below has been derived from the Company’s audited annual financial statements for the specific reporting periods.

### INCOME STATEMENT

	First six months ended 30-Jun		Year ended 31-Dec		
	2015 <i>(unaudited)</i>	2014 <i>(unaudited)</i>	2014 <i>(audited)</i>	2013 <i>(audited)</i>	2012 <i>(audited)</i>
<i>In DKK thousands</i>					
Total revenues	1,473	2,410	4,082	4,087	4,378
Operating result before depreciation & impairment	-1,682	-383	-857	1,904	1,768
Depreciation & impairment	-928	-648	-1,891	-1,291	-1,017
Net financial income income/ expense	-134	-111	-254	-209	-341
Earnings before tax	-2,744	-1,142	-3,002	404	410
Tax	0	0	728	-104	-99
<b>Result for the period</b>	<b>-2,744</b>	<b>-1,142</b>	<b>-2,274</b>	<b>300</b>	<b>311</b>

## BALANCE SHEETS

<i>In DKK thousands</i>	As of		As of		
	30 June		31 December		
	2015	2014	2014	2013	2012
	<i>(unaudited)</i>	<i>(unaudited)</i>	<i>(audited)</i>	<i>(audited)</i>	<i>(audited)</i>
Total intangible fixed assets	10,441	9,789	10,846	10,212	7,194
Total tangible fixed assets	2,724	3,493	3,246	3,708	1,289
Total financial fixed assets	290	290	290	290	290
Total Fixed Assets	13,455	13,572	14,382	14,211	8,774
Total Other Receivables & Prepaid Expenses	3,107	3,251	2,128	3,227	3,907
Total Cash & Cash Equivalents	9	10	18	1,083	2,067
Total Current Assets	3,116	3,261	2,146	4,310	5,973
<b>Total Assets</b>	<b>16,571</b>	<b>16,833</b>	<b>16,529</b>	<b>18,521</b>	<b>14,747</b>
Total Shareholders' Equity	3,356	6,354	6,100	7,515	7,215
Total Long-term Liabilities	8,912	7,149	7,230	8,088	5,732
Total Current Liabilities	4,300	3,330	3,199	2,919	1,800
Total Liabilities	13,212	10,479	10,428	11,006	7,532
<b>Total Equity &amp; Liabilities</b>	<b>16,571</b>	<b>16,833</b>	<b>16,529</b>	<b>18,521</b>	<b>14,747</b>

## CASH FLOW STATEMENT

<i>In DKK thousands</i>	Six months ended		Year ended		
	30 June		31 December		
	2015	2014	2014	2013	2012
	<i>(unaudited)</i>	<i>(unaudited)</i>	<i>(audited)</i>	<i>(audited)</i>	<i>(audited)</i>
Net cash flow from operations	-1,682	-383	822	2,631	1,450
Net cash flow from investment activities	0	0	-2,061	-6,728	-4,822
Net cash flow from financing activities	1,681	-690	173	3 114	5 851
Net change in Cash and Cash Equivalents	-1	-1,073	1,066	-983	2,479
Cash and cash equivalents at the beginning of the period	10	1,083	1,083	2,067	-412
Cash and cash equivalents at the end of the period	9	10	18	1,083	2,067

## **WORKING CAPITAL**

The Company's working capital is, in the opinion of the Company, sufficient for the Company's planned business for the next twelve months after the first day of trading.

## **PROFITABILITY**

Even though the Company has generated small profits historically, it is currently not profitable. It is foreseen that during the development phase the Company is likely to generate losses. The board cannot with certainty assess when the Company will be profitable.

## **COMMENTS**

### ***Income statement 2015 vs 2014***

The first half year of 2015 is at a lower level than 2014 due to the transition from a R&D phase to a commercial phase. The sponsored R&D work came as planned to an end during 2014. In the short term that has affected the Company's turnover and the working capital.

Sales from the leading Canadian floor manufacturer Lauzon have been increasing at a faster pace than previously expected. Lauzon are initiating a new marketing initiative with nationwide commercials on TV and product discounts, and as a result they expect an increasing demand for ACTiFLOOR™.

First sales of Photocat Garden started in February 2015 and has been higher than initially expected. The Company has so far only been selling the product to smaller garden tile cleaners and roof cleaners in Denmark. Photocat is planning to increase its position in Denmark.

Photocat closed agreements with the Danish concrete tile producers IBF and Gammelrand. Both are now producing tiles using Photocat's new concrete NOxOFF™ solution, and have already made their first sales.

### ***Balance sheet***

Photocat's assets as per 30th of June 2015 were 16.6 (16.5) MDKK of which 10.4 (10.8) MDKK represents intangible assets, 3.0 (3.5) MDKK represents property, plant and equipment and fixed financial assets and 3.1 (2.1) MDKK represents current assets.

Due to the negative cash flow from ordinary activities of -1.8 (-0.5) MDKK in this early stage, due to a loss, and cash flow from reducing payables of -0.1 (-0.3) MDKK, Photocat has increased its bank loans. Interest bearing loans was 6.8 (4.2) MDKK of which 1.0 (0.2) MDKK is short-term loans.

### ***Significant events after the accounting period ending 30th of June 2015***

After the end of the accounting period 3.3 MDKK of the debt has been converted into shares. This amount represents shareholder loans given to the Company. The conversion of this loan co-occurred with two private placements of approximately 356,500 new shares.

The Company issued 195,130 new shares in conjunction with that the Company's shares commenced trading on First North in November.

The new share issues conducted in July and September 2015 totaled 356,488 shares offered at SEK 25.00 per share. The two issues were a result of a first and second closing of one and the same private placement and they were, consequently, registered as two separate share issues. The purpose of these private placements were to add working capital and knowledgeable investors to the company.

The share issue conducted in October was an initial public offering in conjunction with the listing of the Company's shares on Nasdaq First North in Stockholm. The share pricing in this issue was SEK 29.00 and consisted of 195,130 shares. The total funds raised through these issues of new shares satisfy the Company's working capital requirements to execute its operational plan until the end of 2016.

The proceeds from the issues provided the Company with SEK 14.6 million cash in total.

## **AUDIT REPORTS AND REMARKS**

There are no remarks from the Company's auditor for the years 2012, 2013 and 2014.

# BOARD OF DIRECTORS, EXECUTIVE OFFICERS AND AUDITOR

## BOARD OF DIRECTORS

During the year ended 31 December 2014, and the date hereof the Board of the Company was comprised of four directors. Each director holds office until the next annual meeting of shareholders or until his successor is duly elected unless his office is earlier vacated in accordance with the by-laws of the Company. The table below sets out information on the directors' name, date of appointment to the Board

Name	Position	Boardmember since	Independent in relation to the company	Independent in relation to larger shareholders
Mette Therkildsen	Chairman	2015	Yes	Yes
Tom Weidner	Director	2011	Yes	No
Thomas Becker <sup>1</sup>	Director	2015	No	Yes
Henrik Jensen <sup>2</sup>	Director	2009	No	No

1. Thomas Becker assists Photocat with high level sales and public affairs. In that position he holds a consultancy agreement with Photocat that offers a fixed monthly remuneration of KDKK 100 during 2016.

2. Henrik Jensen is Chief Technology Officer of Photocat and has in that capacity a monthly salary of KDKK 57.



**Mette Therkildsen (1963)**

*Chairman of the Board at Photocat since 2015.*

Mette Therkildsen has 25 years of management experience from organizations such as TDC, Copenhagen Energy and Lego. She has various top level executive position within energy and technology companies, she currently works for Gribvand A/S as the company CEO. Mette has always had an interest for developing organizations, with vast experience from business development both in larger and smaller companies, Mette Therkildsen adds valuable experience and guidance in Photocat's commercial transformation.

Holdings in the Company: 20,000 shares



**Tom Weidner (1958)**

*Member of the Board at Photocat since 2011.*

Tom Weidner serves as an investment manager at CAPNOVA, a Danish investment fund, and is experienced as a business entrepreneur helping companies from idea to commercialization. Tom has a deep chemical knowledge, and has previously held the position as CEO in an international surface treatment company. This experience is specifically valuable for Photocat. Tom Weidner has a long history of board experience in cleantech companies, he has experienced several company transformations during his career and is key in guiding Photocat through its change from an R&D to a commercial company.

Holdings in the Company: 307,527 shares via CAPNOVA



**Thomas Becker (1957)**

*Member of the Board at Photocat since 2015.*

Thomas Becker has previously held various top level executive positions for the European Wind Energy Association and for Genan Business & Development A/S. Prior to these positions Thomas worked as the Deputy Permanent Secretary at the Ministry of Climate and Energy, he was the Danish Chief Negotiator and leading official on climate change in the UNFCCC (United Nations Framework Convention on Climate Change). Thomas Becker adds a range of skillsets that will be vital in the transformation of Photocat, and instrumental in achieving the needed technology awareness in the political scene, both in Denmark and EU.

Holdings in the Company: 0



**Henrik Jensen (1978)**

*Member of the Board at Photocat since 2009 and Chief Technology Officer*

See executive officers.

Holdings in the Company: 960,000 shares through ownership in founders' holding company PhotoC Holding

## EXECUTIVE OFFICERS

The management team of Photocat currently consists of two executives, whose biographies are set out below.



**Michael Humle (1964)**

*Managing Director at Photocat since 2009*

Michael Humle founded the company in 2009 together with Henrik Jensen and Theis Reenberg. Michael holds a master of law, he started his career at Ernst & Young as an accountant, but eventually moved into the health sector as a management consultant for IMS Health and has held management positions in various firms in the pharmaceutical industry within sales & marketing. As CEO for Photocat Michael has led the initial sales strategy, vital in creating strong relations with partners and customers as well as hands on strategic execution enabling the company to achieve its first sales and reference cases.

Holdings in the Company: 141,391 shares and 960,000 shares through ownership in founders' holding company PhotoC Holding



**Henrik Jensen (1978)**

*Chief Technology Officer at Photocat since 2009.*

Henrik Jensen is one of the founders behind Photocat and the lead inventor of their product portfolio. He holds a degree from Aalborg University as a chemical engineer as well as a Ph.D from the same university within production of nanosized photocatalysts. He has worked with nanosized photocatalyst for the last thirteen years, he is first author on five peer reviewed articles within this field and co-inventor on several patents. Henrik is highly knowledgeable with photocatalytic technology, and is an important resource and driver for Photocat's future growth. Henrik and his team has successfully innovated the industry creating a product that is highly effective and cost efficient, as a board member Henrik adds valuable insights in terms of product development strategies.

Holdings in the Company: 960,000 shares through ownership in founders' holding company PhotoC Holding



**Carsten Bach-Petersen (1956)**

*CFO at Photocat since 2009*

Carsten holds a MBA from Copenhagen Business School and is a trained accountant. Carsten has since 2009 been responsible for external reporting at Photocat. Carsten's services are retained on a consultancy basis. Since 1990 Carsten has been working within the SAS Group with controlling, financial management and reporting. Current accounts for Photocat are managed by Ms Keiko Albers under the supervision of Carsten.

Holdings in the Company: 20,000 shares

**INSIDER HOLDINGS**

As at the date of this Company description, the directors and executive officers of the Company, beneficially owned, or controlled or directed, directly or indirectly, an aggregate of 1.428.918 Shares of the Company, representing approximately 72 percent of the issued and outstanding Shares of Photocat

**AUDITORS**

PricewaterhouseCoopers LLP, Chartered Accountants

**ADDITIONAL INFORMATION ABOUT THE BOARD AND SENIOR EXECUTIVES**

During the past five years no one of the board members or senior executives have (i) been convicted fraud-related cases, (ii) been declared bankrupt or held the position of directors or senior executives of companies that been declared bankruptcy or forced liquidation, (iii) been the subject of accusations or sanctions by authorities or public law associations or (iv) been imposed with disqualifications. No family relationships exist between the Company's directors and officers . Nor are there any conflicts of interest or potential conflict, the directors' and senior executives' private interests could conflict with the company's interests. There are no restrictions on board members or senior executives to sell their shares in the Company.

**REMUNERATION TO THE BOARD AND SENIOR EXECUTIVES**

The Board's remuneration was set at the Company's Annual General Meeting 2015 for the period until the next AGM. Remuneration of 50 KDKK would be paid to the Chairman and 25 KDKK each to the other Board members, except for Tom Weidner and Henrik Jensen, who only receive ordinary salary for his position as CTO of Photocat. None of the directors are entitled to benefits after the termination of the assignment . In 2014, a total of 90 KDKK was paid to the Board members. No compensation other than directors' remuneration were paid.

During 2014 the CEO received 0 KDKK in salary. The CEO receives a monthly salary of 70 KDKK for 2015. CEO is entitled to a yearly bonus of 300 KDKK if the company's EBITDA equals or exceeds 26,7 MDKK. The notice period is twelve months, both from the Company and from the CEO's side. Other senior executives, which during 2014 consisted of two people, CTO Henrik Jensen and CFO Carsten Back-Petersen, received 784 KDKK in total remuneration. The period of notice for both Henrik Jensen and Carsten Back-Petersen is six months, both from the company and the individual.

# SHARE CAPITAL AND RELATED ISSUES

## DESCRIPTION OF THE SHARE CAPITAL

The authorized share capital of the Company consists of common shares with par value of DKK 1.00, which have been created under the legislation of Denmark. All of the issued common shares are fully paid and non-assessable. As of 6 november 2015, the Company had an aggregate of 1,980,598 shares issued and outstanding. The Company held no Shares on its own account.

The holders of Shares are entitled to receive notice of, and to one vote per Share at, every general meeting in the Company, to receive such dividends as the general meeting should decide based on proposal from the Board of Directors, and to share equally in the assets of the Company remaining upon the liquidation, dissolution or winding up of the Company after the creditors of Company have been satisfied.

## DEVELOPMENT OF THE SHARE CAPITAL

Year	Month	Event	Changes in shares	Total number of shares	Change in share capital	Nominal price
2009	July	Inception	500,000	500,000	500,000	1.00
2009	August	New issue	500,000	1,000,000	1,000,000	1.00
2012	July	Directed new issue	167,537	1,167,537	1,167,537	1.00
2015	May	Excercited options	20,000	1,187,537	1,187,537	1.00
2015	May	Excercited options	10,000	1,197,537	1,197,537	1.00
2015	May	Debt conversion	89,963	1,287,500	1,287,500	1.00
2015	July	Debt conversion	141,391	1,428,891	1,428,891	1.00
2015	July	New issue	320,038	1,748,929	1,748,929	1.00
2015	September	New issue	36,450	1,785,379	1,785,379	1.00
2015	Oktober	New issue	195,130	1,980,598	1,980,598	1.00

## SIGNIFICANT OWNERSHIP

To the knowledge of the directors and officers of the Company, shareholders carrying 10 percent or more of the voting rights attached to all outstanding Shares as of 4 September 2015 were:

Shareholder	Shares	% of votes
PhotoC Holding ApS	960,000	48,5%
CAPNOVA A/S	307,438	15,5%

## CURRENT SHAREHOLDER STRUCTURE

Shareholder	Shares	% of votes
PhotoC Holding ApS	960,000	48.5%
CAPNOVA Invest Zealand	307,527	15.5%
LMK Forward	160,000	8.1%
Michael Humle	141,391	7.1%
Steen Ornslund	40,000	2.0%
242 Holding	20,000	1.0%
Mikael Lönn	20,000	1.0%
Magnus Tegborg	20,000	1.0%
Mette Terkildsen	20,000	1.0%
Marcus Erlandsson	16,000	0.8%
Other	275,680	13.9%
<b>Total</b>	<b>1,980,598</b>	<b>100.0%</b>

**PhotoC Holding ApS** is a Danish limited liability company that is owned to equal parts by the three Photocat founders Michael Humle, Henrik Jensen and Thies Rhenberg.

**CAPNOVA Invest Zealand ApS** is a Danish private limited liability investment and development company that invests governmental, regional and own venture capital. It is owned by Jyske Bank A/S, Sydbank A/S, Aarhus Universitets Forskiningsfond, CAT Fonden, Incuba A/S och Finansiell Stabilitet A/S.

**LMK Forward AB** is a privately owned investment company. The foundation of the company's financial assets stems from Axis Communications that was acquired by Canon in 2014.

**242 Holding AB** is a privately owned holding company that is controlled by private investor Christian Rajter.

# LEGAL AND SUPPLEMENTARY INFORMATION

## **CVR NUMBER, INCORPORATION AND PRINCIPAL PLACE OF BUSINESS**

Photocat A/S, with CVR-number 32357903, is since 2009-07-31 duly incorporated in Denmark with its registered address Langebjerg 4, 4000 Roskilde, Denmark.

## **LEGAL FORM OF BUSINESS**

### ***Brief description***

Provided below is a brief description of the relevant differences between The Danish Companies Act and The Swedish Companies Act with regard to dividend procedures, annual general meeting and mandatory corporate actions. It should be noted, that the following description is not exhaustive and that restrictions and exemptions may apply to the rules described.

### **1. Dividend procedures**

#### 1.1 Dividend procedures pursuant to The Danish Companies Act

##### 1.1.1 Distribution of ordinary dividends

Pursuant to section 180 of The Danish Companies Act, the general meeting resolves how to distribute as dividends the amount available for distribution as recorded in the financial statements. The general meeting cannot resolve to distribute dividends of a higher amount than that proposed or accepted by the company's central management body. Dividends may only be distributed out of the company's distributable reserves, i.e. amounts stated as retained earnings in the company's latest approved financial statements, and reserves not being non-distributable under a statute or the company's articles of association, less retained earnings.

##### 1.1.2 Distribution of extraordinary dividends

Pursuant to section 182 of The Danish Companies Act, the general meeting may resolve to distribute extraordinary dividends when the company has presented its first annual report. The general meeting cannot resolve to distribute extraordinary dividends of a higher amount than that proposed or accepted by the company's central management body. Only funds being distributable reserves according to section 180(2) of The Danish Companies Act, as well as earned profit

and distributable reserves created or released after the latest financial year for which an annual report has been prepared may be distributed as extraordinary dividends unless the amount has been distributed or spent or is non-distributable. Pursuant to section 183 of The Danish Companies Act, any resolution to distribute extraordinary dividends must always be accompanied by a balance sheet. The central management body assesses whether the balance sheet of the latest annual report is adequate, or whether an interim balance sheet showing that sufficient funds are available for distribution needs to be prepared.

#### 1.2 Dividend procedures pursuant to The Swedish Companies Act

## **2. Annual General Meeting**

#### 2.1 Annual General Meeting pursuant to The Danish Companies Act

##### 2.1.1 Shareholders' right to pass resolutions

Pursuant to section 76 of The Danish Companies Act, the shareholders' right to pass resolutions is exercised at the general meetings of the limited liability company.

##### 2.1.2 Shareholders' right to attend, vote etc.

Pursuant to section 78 of The Danish Companies Act, all shareholders are entitled to attend and speak at general meetings. Pursuant to section 80 of The Danish Companies Act, Shareholders are entitled to attend general meetings by proxy. Pursuant to section 81 of The Danish Companies Act, shareholders and proxies attending general meetings may be accompanied by an advisor. Pursuant to section 82 of The Danish Companies Act, shareholders' agreements are not binding on the limited liability company or with regard to resolutions passed at general meetings. Pursuant to section 84 of The Danish Companies Act, the articles of association in public limited companies whose shares are not admitted to trading on a regulated market, may provide e.g., that a shareholder's right to attend a general meeting and to vote in respect of his shares must be determined on the basis of the shares held by the shareholder at the date of registration. The shareholding and voting rights of a shareholder must be determined at the date of registration on the basis of the number of shares held by the shareholder according to the register of shareholders and any notice of ownership received by the public limited company for the purpose of registration in the register of shareholders. The date of registration is one week before the general meeting.

### 2.1.3 Time and Place

Pursuant to section 87 of The Danish Companies Act, general meetings must be held at the registered office of the limited liability company, unless the articles of association specify that general meetings must or may be held elsewhere.

Pursuant to section 88 of The Danish Companies Act, the annual general meeting must pass resolutions on:

- (i) approval of the annual report;

- (ii) appropriation of profit or loss as recorded in the approved annual report;

- (iii) any change to a resolution concerning the auditing of the limited liability company's future financial statements etc. if the company is not subject to audit obligations under the Financial Statements Act (in Danish "årsregnskabsloven") or any other legislation;

- (iv) any other business to be transacted by the general meeting under the company's articles of association. The annual general meeting must be held in time for the approved annual report to be received by the Danish Business Authority before the expiry of the time-limit set out in the Financial Statements Act (see also section 3 below). The annual report must be submitted to the general meeting.

### 2.1.4 Agenda

Pursuant to section 90 of The Danish Companies Act, any shareholder is entitled to have a specific issue included on the agenda for an annual general meeting.

### 2.1.5 Notice of general meetings

Pursuant to section 93 of The Danish Companies Act, general meetings must be called and organised by the central management body. Pursuant to section 94 of The Danish Companies Act, notice of general meetings must not be given more than four weeks before the general meeting and, unless the articles of association provide for a longer period of notice, less than two weeks before the general meeting. If the general meeting is adjourned to a date more than four weeks later, notice of the adjourned meeting must be given.

Pursuant to section 95 of The Danish Companies Act, notice of general meetings must be given in accordance with the provisions of the articles of association.

Pursuant to section 98 of The Danish Companies Act, the agenda and the complete proposed resolutions and, in the case of the annual general meeting, also the audited annual report must be available for inspection by the shareholders no later than two weeks before the general meeting.

### 2.1.6 Voting

Pursuant to section 104 of The Danish Companies Act, each shareholder must vote in respect of his shares in aggregate, unless otherwise provided in the articles of association.

Pursuant to section 105 of The Danish Companies Act, unless otherwise provided in The Danish Companies Act or in the articles of association of the limited liability company, all resolutions at general meetings are passed by a simple majority of votes. In case of an equality of votes, the proposed resolution has not been passed.

Pursuant to section 106 of The Danish Companies Act, resolutions to amend the articles of association must be passed by at least two-thirds of the votes cast as well as at least two-thirds of the share capital represented at the general meeting.

Specific exemptions apply.

Pursuant to section 107 of The Danish Companies Act, resolutions to amend the articles of association resulting in an increase of the shareholders' obligations to the limited liability company are valid only if all shareholders agree.

Pursuant to section 107 (2) of The Danish Companies Act, some resolutions to amend the articles of association e.g. resolutions reducing the shareholders' right to receive dividends or distributions of the company's funds, including subscriptions for shares at a favourable price, to the benefit of persons other than the shareholders and employees of the limited liability company or its subsidiary are valid only if passed by at least nine-tenths of the votes cast as well as at least nine-tenths of the share capital represented at the general meeting.

### 2.1.7 Invalid resolutions by general meetings

Pursuant to section 108 of The Danish Companies Act, the general meeting cannot pass resolutions which are clearly likely to provide certain shareholders or others with an undue advantage over the other shareholders or the limited liability company.

Pursuant to section 109 of The Danish Companies Act, a shareholder or a member of management may commence legal proceedings concerning a resolution passed by the general meeting that has not been lawfully passed or conflicts with The Danish Companies Act or the articles of association of the limited liability company

### **3. Mandatory corporate actions**

3.1 Mandatory corporate actions pursuant to The Danish Companies Act.

#### **3.1.1 Annual general meeting**

Pursuant to section 88(2) of The Danish Companies Act, the annual general meeting must be held in time for the approved annual report to be received by the Danish Business Authority before the expiry of the time-limit set out in the Financial Statements Act. The annual report must be submitted to the general meeting.

#### **3.1.2 Loss of share capital**

Pursuant to section 119 of The Danish Companies Act, the management of a limited liability company must ensure that a general meeting is held no later than six months after it has been established that the company's equity represents less than half of the subscribed share capital.

#### **3.1.3 Registration**

Pursuant to section 9 of The Danish Companies Act, all information to be registered under The Danish Companies Act must be recorded in the IT system of the Danish Business Authority no later than two weeks after the date of the relevant resolution, unless otherwise provided in or under The Danish Companies Act.

### **SHAREHOLDER AGREEMENTS**

As to the knowledge of the Company and its directors there are no shareholder agreements between any of the Company's shareholders.

### **CONTRACTS OF SIGNIFICANCE**

The Company has important contracts/agreements covering such areas as Protection of IPR, exercise of Rights, obligations to supply as well as lease of property in Roskilde. The most important agreements are:

- 1) TOTO Ltd, Japan
- 2) Lauzon Flooring Ltd, Canada
- 3) Vålinge Innovation AB, Sweden
- 4) H. Jansen Holding A/S, Denmark

#### **Toto**

In 2008 a license to operate from Toto patents on photocatalytic technology by SCF Technologies A/S was secured. This agreement was in 2009 transferred to Photocat. The agreement allows Photocat to sell its self-cleaning patent-protected solutions without risk for customers to violate Toto IPR. The agreement expires in 2016 together with the expiration of Toto IPR but can be prolonged by Photocat should the company desire to. Photocat has the rights to use the patents world-wide excluding Japan against a license fee of 2 percent of the sales of photocatalyst. The agreement is relevant for glass surfaces.

#### **Lauzon**

In 2011 an agreement was signed between Lauzon hardwood flooring and Photocat in which Photocat shall supply Lauzon with photocatalyst for its floors to a fixed price. The agreement secure sales to Photocat but also obligation to supply. The agreement is valid as long as Lauzon uses the photocatalytic technology in their product portfolio. For the time being it is branded Pure Genius.

#### **Vålinge International**

Photocat has two head of agreements with Vålinge International AB that regulates the transfer of patents and patent applications from Photocat to Vålinge Photocatalytic AB ("VPAB") as well the license to exploit these IPR rights commercially by Photocat license free, irrevocable and global. The agreements shall remain in force until 31 December 2027. Within the field of floors both parties have the right to use the rights against payment of royalty to VPAB. The purpose of VPAB is to own and protect IPR within the photocatalytic field and protect the value of these rights. The revenue of this company stems from sales of licenses to flooring customers world wide.

#### **H. Jansen Holding A/S**

H. Jansen is the owner of the property in which Photocat resides and has its production facility. The lease agreement extend to the end of 2018.

## EUROCLEAR AFFILIATION

Photocat's shares are dematerialized and registered electronically in the register kept by Euroclear Sweden AB, P.O. Box 191, SE-101 23 Stockholm, Sweden.

## INTELLECTUAL PROPERTY

The intellectual property rights are an important part of Photocat's business. Photocat pursues, where relevant, IPR protection through the use of brands, knowhow and patents. Photocat applied for its first patent application in 2007. In 2009 Photocat transferred to Valinge Photocatalytic AB the ownership of 2 patent family applications. Photocat holds a 9.9 percent ownership of Valinge Photocatalytic AB and Valinge International AB holds a 90.1 percent ownership. Photocat entered into the partnership with Valinge International AB with focus on defending patents right and create a royalty generating patent portfolio. Valinge international AB is the leader in flooring technology and has more than 150 licensees on its different technologies. Valinge International AB holds over 1,000 patents and has successfully built a license business based on its IPR portfolio. Valinge International AB has demonstrated its ability to protect and increase value of patents and has defended its patent portfolio successfully since its first patent applications through court battles in Europe and North America. Since 2009 Valinge Photocatalytic AB has applied for additional 6 patents families based on Photocat research. Since 2014 Photocat has applied for additional 2 patent families and totally owns 3 patent families. For the patents owned by Valinge Photocatalytic AB, Photocat has the exclusive right to use the patents outside flooring and shared rights with Valinge Photocatalytic AB within flooring. From two of the patent families patents are granted and Photocat holds the exclusive right to (shared with Valinge Photocatalytic AB within flooring) 31 granted patents and 53 patents are pending.

The patent portfolio covers production and products related to photocatalytic fluids, self-cleaning glass, formaldehyde degrading boards and panels, air purifying buildings materials and application method for indoor and outdoor products.

Photocat is supported by a long time established relation to Patent Attorney and Partner at Plougmann & Vingtoft in Copenhagen Per Nygreen regarding developing the IPR portfolio. Per Nygreen has been part of creating the patent portfolio from its conception in the beginning of 2007 to its present status in 2015.

Photocat has a license from Toto Ltd. of Japan to use Toto Ltd. photocatalytic technology. The license was acquired in 2009 and is useful in certain specific areas of the photocatalytic business.

Photocats 11 patent families covers the technology behind the ShineOn, NOxOFF, ActiFLOOR, and Photocat Garden products:

1. The patent application is related to a post-treatment procedure for glass and covers the ShineOn product and application method. The present invention relates to cleaning glass to have a contact angle with water below 15° and thereafter coating the cleaned surface with a water based photocatalytic active TiO<sub>2</sub> fluid. The invention makes it possible to: 1) apply a photocatalytic coating on glass by a factor faster compared to existing methods 2) chemical and mechanically clean a window glass till it becomes hydrophilic and shows a contact angle of < 15° 3) spray photocatalytic coatings on the window glass with acceptable visual results. The patent application has entered the national phase in Europe (EP).
2. The patent application covers photocatalytic indoor boards and panels. The patent application can be used for indoor air purifying building materials. The ability to incorporate the Photocat photocatalytic fluids in the surface of the final product is critical to obtain a transparent final product and is covered by this patent application. The patent application has entered the national phase in Europe (EP), US and several other countries.
3. The patent application covers a non-disruptive dispersion of nanoparticles in a solvent resulting in a transparent fluid. The invention relates to a method of producing stable, optically transparent and highly photocatalytic active colloidal suspensions of particles. The present invention relates to a method, which is milder, faster and allows for production of stable suspensions of particles. The patent is granted in Europe (and being validated in 22 countries in EU) and China and is in national phase in several other countries.

4. The patent application relates to a production methods of applying nanoparticles on a surface of a sheet for production of flooring materials. This patent application is part of the indoor portfolio. The patent application is granted in 8 countries including Russia and has entered national phase in Europe (EP), US and several other countries.
5. The patent application is related to photocatalytic hardwood floors including lacquered boards and panels and is part of the ActiFloor business area. The patent application has entered national phase in Europe (EP), US, Canada (CA) and several other countries.
6. The patent application covers how to make and use a stabile photocatalytic fluid or ink and maintain color fastness. The patent application has entered national phase in Europe (EP), US and several other countries.
7. The patent application is covering the use of photocatalytic materials on organic surfaces. The patent application is pending.
8. The patent application is covering the process of making a highly photocatalytic concrete stone at a cost efficient way with improved durability. The patent application is pending.
9. The patent application is related to producing a photocatalytic material with improved properties. The patent application is pending.
10. The patent application is related to producing a highly active roofing material. The patent application is pending.
11. The patent application is covering highly active paving products. The patent application is pending.

Valinge Photocatalytic AB is owner of the patents listed as numbers 2, 3, 4, 5, 6, 7, 8, and 9. For these patents, Photocat has an exclusive right to use the patents outside flooring and shared right with Valinge Photocatalytic AB within flooring. The patent applications numbered 1, 10 and 11 is owned by Photocat A/S.

Photocat will continuously strive to improve and protect its technology with patent applications and further developing its IPR base.

#### **INSURANCE**

Photocat's operations and personell are deemed adequately insured.

#### **LEGAL PROCEEDINGS AND REGULATORY ACTIONS**

Photocat has not been, nor is it part in any legal proceedings that will affect the operations of the company significantly.

#### **TRANSACTIONS WITH RELATED PARTIES**

Director Thomas Becker provides consultancy services to Photocat. During 2015, Photocat has paid a total of 312 KDKK to Thomas Becker for services rendered. The services provided by Thomas Becker focus on assisting the Company with high level sales and public affairs. The consultancy agreement with Photocat renders a fixed monthly fee of KDKK 100 during 2016. The consultancy agreement can be terminated with one month notice. With exception of the above stated, Photocat has not issued loans, garantes or any other related party transactions to the benefit of any Company Directors, management, auditors or other related parties.

# ARTICLES OF ASSOCIATION AND BY-LAWS

## **1. The Company's name**

The name of the Company is Photocat A/S

## **2. Registered Office**

2.1 The Company's registered office is situated in the municipality of Roskilde.

## **3 Objects**

3.1 The objects for which the Company has been established are development and sale of photocatalytic technologies and products and such other businesses deemed incidental to the attainment of such objects.

## **4 Share capital**

4.1 The Company's share capital is DKK 1,980,598 divided into shares of DKK 1.

## **5 Authorisation**

5.1 Until 30 April 2020, the Board of Directors shall be authorised to increase the Company's share capital in one or more transactions by up to 1,500,000 shares of DKK 1 at market value without the existing share holders having any pre-emption rights.

5.2 Until 30 April 2020 the Board of Directors shall be authorised to increase the Company's share capital in one or more transactions by up to 1,500,000 shares with the existing shareholders having preemption rights.

5.3 Under s. 155 of the Danish Companies Act, the Board of Directors is authorized to pass resolution to issue warrants in one or more transactions until 30 April 2020 at the latest to the executive committee of the Company and people in key management positions in the Company by up to 100,000 shares of DKK 1 without the existing shareholders having any pre-emption rights in accordance with the specific guidelines drawn up by the annual general meeting or the Board of Directors and effect the related increase of the Company's share capital.

5.4 All new shares shall be subject to the same rules as the existing shares of the Company. The shares shall be registered in the name of the holder in the Company's register of shareholders and shall be negotiable instruments. The shares shall be subject to the same rules on pre-emption rights, voting rights and redeemability as the existing shares.

## **6 Shares**

6.1 The share capital has been fully paid-up.

6.2 The shares shall be issued through a securities centre.

6.3 No shares are to be redeemed or are to be liable to be redeemed, neither wholly nor partially.

6.4 No shares shall confer any special rights.

6.5 The shares shall bear the name of the holder and shall be registered in the name of the holder in the Company's register of shareholders.

6.6 The shares are negotiable instruments.

6.7 Euroclear Sweden AB, reg. no. 556112-8074, P.O. Box 191, 101 23 Stockholm, Sweden shall keep the Company's register of shareholders.

## **7.**

7.1 Dividends shall be distributed through a Securities Centre according to applicable rules.

## **8. General meetings**

8.1 General meetings shall be held in the municipality in which the Company has its registered office or in Greater Copenhagen.

- 8.2 General meetings shall be convened by the Board of Directors no less than two weeks and no more than four weeks prior to the general meeting via the Company's website and by letter to each registered shareholder who has so requested.
- 8.3 The notice of the general meeting shall include the agenda for the meeting. If any proposals require adoption by qualified majority, it shall be specified in the notice, and the most important aspects of the proposal shall also be specified in the notice.
- 8.4 No later than two weeks prior to any general meeting, the agenda and the complete proposals together with the additional documents mentioned in Section 99 of the Danish Companies Act and, in case of annual general meetings, the audited annual report, and the consolidated accounts, if any, shall be made available for inspection by the shareholders at the Company's website [www.photocat.net](http://www.photocat.net).

## **9.**

- 9.1 The annual general meeting shall be held within four months from the end of the financial year.
- 9.2 The agenda for the annual general meeting shall include:
- (1) The Board of Directors' report on the activities of the Company
  - (2) Presentation for adoption of the annual report and accounts
  - (3) Resolution on the appropriation of profits or provision for losses in accordance with the adopted report and accounts.
  - (4) Election of members of the Board of Directors.
  - (5) Appointment of one auditor.
  - (6) Any proposals submitted by the Board of Directors or shareholders.
- 9.3 Any shareholder shall be entitled to have one or more items included in the agenda for the ordinary general meeting, provided that the shareholder submits a written request to that effect to the Company's Board of Directors no later than six weeks before the general meeting.

## **10.**

- 10.1 Extraordinary general meetings shall be held upon requisition from the general meeting, the Board of Directors or the auditor elected by the general meeting or at the written request for transaction of special business of shareholders holding no less than 5 per cent of the share capital. The shareholders' request shall specify the business to be transacted at the general meeting. Within 14 days thereafter, the general meeting shall be convened by the Board of Directors.

## **11.**

- 11.1 A shareholder's right to attend and vote at general meetings shall be determined on the basis of such shareholder's holding of shares on the record date, i.e., one week prior to the general meeting. A shareholder's attendance at general meetings is furthermore subject to such shareholder having requested an admission card for the relevant general meeting no later than three days prior to the date of the general meeting. Admission cards are issued to any such person who according to the register of shareholders is registered as a shareholder on the record date or who has duly reported his shareholding to the Company as at the record date for purposes of entry in the register of shareholders.

## **12.**

- 12.1 The general meeting shall be presided over by a chair-man appointed by the Board of Directors.
- 12.2 The business transacted at the general meeting shall be entered into a minute book signed by the Chair man and all members of the Board of Directors present at the meeting.

## **13. Voting rights**

- 13.1 Each share confers a voting right upon the holder at general meetings provided that the shareholder has procured an admission card pursuant to article 11.1.

**14.**

14.1 At the general meeting, each share of DKK 1 shall confer one vote upon the holder.

**15.**

15.1 Any resolution on business transacted at the general meetings shall be passed by simple majority unless the Danish Companies Act lays down special rules on representation and majority.

**16. Board of Directors**

16.1 The Company shall be managed by a board of directors elected at the general meeting.

16.2 The Board of Directors shall consist of 3-6 members and members shall be elected for a term of one year.

The members are eligible for reelection.

16.3 The shareholders shall fix the fee paid to the Board of Directors at the general meeting.

16.4 The corporate language is English.

**17.**

17.1 Minutes of business transacted at the board meetings shall be entered into a book to be signed by all directors present at such meetings.

17.2 The Board of Directors shall elect a chairman among its own members. In case of equality of votes the Chairman shall cast the decisive vote.

17.3 The Board of Directors may grant separate or joint power of procuration.

17.4 The Board of Directors shall lay down rules of procedure specifying the performance of its duties.

17.5 The Board of Directors shall appoint a board the management.

**18. Notices**

18.1 The Company shall be entitled to give any notices to the Company's shareholders to be given under the Danish Companies Act or these Articles of Association by electronic mail, and documents may be made available or forwarded in electronic form.

18.2 The Executive Committee will ask all shareholders recorded in the Company's register of shareholders to provide their current email addresses to which notices etc. may be given. It is the responsibility of the shareholder to provide the Company with a correct and current email address.

**19. Power to bind the Company**

19.1 The Company shall be bound by the joint signatures of the Chairman of the Board of Directors and any one member of the Management or by the joint signatures of any two members of the Board of Directors and any one member of the Management or by the joint signatures of the entire Board of Directors.

**20. Auditor**

20.1 The general meeting shall elect one state-authorized public accountant to audit the Company's annual report.

20.2 The auditor shall be appointed for a term of one year. The auditors are eligible for re-election

**21. Financial year**

21.1 The financial year of the Company shall run from 1 January to 30 December.

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Approved on October 22 2015.

On behalf of the Board of Directors:

Mette Therkildsen  
Chairman of the Board of Directors

# TAX MATTERS

*The following is a summary of certain tax issues that may arise as a result of holding Shares in the Company. The summary is based on Swedish tax legislation currently in force and is intended only as general information for shareholders, who are resident or domiciled in Sweden for tax purposes, if not otherwise stated. The summary does not cover situations where Shares are held as current assets in business operations or by a partnership. Furthermore, the summary does not cover special regulations governing tax-exempt capital gains, shareholding in companies that are, or have previously been, closely held companies or on Shares acquired on the basis of such holdings, or other specific situations and rules. The summary also does not cover tax issues related to holdings in unlisted shares. Each shareholder is recommended to consult a tax adviser for information on the specific tax consequences that may arise as a result of holding Shares in the Company, including the applicability and effect of foreign or other rules, tax treaties or from foreign exchange rate fluctuations between currencies which may be applicable.*

## INDIVIDUALS

### **Capital gains taxation**

Individuals who sell their Shares, are subject to capital gains tax. The current tax rate is 30 percent of the gain. The capital gain is calculated to equal the difference between the sales proceeds, after deduction for sales expenses, and the Shares' acquisition cost for tax purposes. The acquisition cost is determined according to the "average cost method". This means that the costs for all Shares of the same type and class are added together and determined collectively, with respect to changes to the holding. Alternatively, "the standard rule" according to which the acquisition cost is deemed to be equal to 20 percent of the net sales price may be applied on the disposal of listed Shares.

Capital losses on listed Shares are fully deductible against taxable capital gains on Shares during the same fiscal year. The loss is also deductible against gains on other listed securities that are taxed in the same manner as Shares (except for Shares in mutual funds containing only Swedish receivables (Sw. räntefonder)). A loss in excess of the above-mentioned gains is deductible with 70 percent against any other taxable income derived from capital.

If a deficit arises in the income from capital category, a reduction of the tax on income from employment and from business, as well as the tax on real estate, is allowed. The tax reduction allowed amounts to 30 percent of any deficit not exceeding SEK 100,000 and 21 percent of any deficit in excess of SEK 100,000. Deficits may not be carried forward to a later fiscal year

### **Dividend taxation**

In general, dividends, if any, on Shares are taxed in Sweden at a rate of 30 percent as income from capital for individuals. For individuals resident in Sweden a preliminary tax of 30 percent regarding dividends is generally withheld by Euroclear Sweden, or in the case of nominee registered shares the preliminary tax is withheld by the Swedish trustee.

## LIMITED LIABILITY COMPANIES

### **Capital gains**

Swedish limited liability companies (Sw: aktiebolag) are taxed on all income as income from business activities at a flat rate of 22 percent. Regarding the calculation of a capital gain or loss and the acquisition cost, see Section "Individuals".

A capital loss on Shares incurred by a corporate shareholder may be offset only against gains on Shares or other securities that are taxed in the same manner as Shares. Such capital losses may, under certain circumstances, also be deductible against capital gains on such securities within the same group of companies, provided the requirements for group contributions are met. Capital losses on Shares or other such securities, which have not been deducted from capital gains within a certain year, may be carried forward and be offset against similar capital gains in future years without any limitation in time. Capital gains on listed Shares in limited liability companies, including foreign equivalents, are tax-exempt (and capital losses on such Shares are non-deductible) provided that the holding represents at least 10 percent of the voting rights of all Shares. Exemption may also be available provided the holding is conditioned by the shareholder's (or affiliated company's) business. Capital gains on listed Shares are only tax-exempt if they are held not less than one year from the day any of the above holding requirements were met.

### **Dividend taxation**

In general, dividends, if any, on Shares to limited liability companies are taxed in Sweden at a rate of 22 percent as ordinary income from business activities.

Dividends on listed Shares, if any, in limited liability companies, including foreign equivalents, are tax exempt provided that the holding represents at least ten per cent of the voting rights of all Shares (or the holding



*Copenhagen airport. Photocat has in co-operation with the airport made and installed a roofing solution using best available standards for photocatalytic performance with Photocat proprietary technology*



*In Mexico City, one of the most polluted cities in the world, the Hospital Manuel Gea Gonzales undergone a transformation: a facade made with modules coated with photo-catalytic surface. This façade can neutralize the*

is conditioned by the shareholders', or affiliated company's business). The dividend tax exemption only applies if the listed Shares are not disposed of within one year from the day any of the above holding requirements were met. The Shares must, however, not have been held continuously for one year at the date of distribution. Taxation will, however, be triggered if the Shares are sold (or otherwise ceases to be entitled to the tax exemption) before the one-year holding period requirement is met. A dividend on Shares that ceases to be covered by the tax exemption may therefore be subject to tax in a different fiscal year than the dividend was received.

#### **CERTAIN TAX ISSUES FOR SHAREHOLDERS WHO ARE NOT TAX RESIDENT IN SWEDEN**

Individual shareholders who are not resident or domiciled in Sweden for Swedish tax purposes are generally not subject to tax in Sweden for capital gains realized upon the sale or other disposal of Shares. Shareholders may, however, be subject to taxation in their country of domicile and elsewhere. If Shares are attributable to a permanent establishment in Sweden, the rules concerning tax-exempt dividends and capital gains described above are applicable with certain limitations.

Under a domestic Swedish tax provision, non-Swedish tax resident individuals may be subject to Swedish capital gains taxation upon a sale or other disposal of shares in non-Swedish corporate entities if the shares were acquired during their tax residency in Sweden if they have been resident or lived permanently in Sweden at any time during the calendar year of such disposal or during the previous ten calendar years preceding the year of disposal. The applicability of this provision may however be limited by an applicable tax treaty between Sweden and other countries.

Foreign legal entities are not liable to Swedish tax on dividends or capital gains upon a sale or other disposal of Shares, provided that the shares are not pertaining to a permanent establishment in Sweden.

## DOCUMENTS INCORPORATED BY REFERENCE

2012 annual report  
2013 annual report  
2014 annual report  
2015 six months report

Company YouTube Channel: <https://www.youtube.com/channel/UCdj0oJvha1aV6yfFaAAf12g>

## GLOSSARY

The following is

DKK, KDKK, MDKK	Danish krona, expressed in thousand and million
EPF	European Photocatalytic Federation
EUR, KEUR, MEUR	Euro, expressed in thousand and million
NGO	Non-Governmental Organizations
NOx	Nitrogen oxide gases
nm	nanometer = 0,000 000 001 meter
Photocatalysis	Decomposing process driven by ultraviolet light
SEK, KSEK, MSEK	Swedish kroon, expressed in thousand and million
TDMA	Titanium Dioxide Manufacturers lobby association
TiO <sub>2</sub>	Titanium dioxide
UV-light	ultraviolet light
VOC	Volatile Organic Compounds: organic chemicals that have a high vapor pressure at ordinary room temperature

## ADDRESSES

**Photocat A/S**  
**Langebjerg 4**  
**DK-4000 Roskilde, Denmark**

**Auditor**  
PriceWaterhouseCoopers  
Strandvejen 44  
DK-2900 Hellerup, Denmark

The logo for PHOTOCAT features a solid orange horizontal bar at the top. Below this bar is a dark grey rectangular box containing the word "PHOTOCAT" in white, uppercase, sans-serif font.

PHOTOCAT