CESCA THERAPEUTICS INC.
Form S-1/A
May 16, 2018
As filed with the Securities and Exchange Commission on May 16, 2018.

Registration No. 333-224185

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Amendment No. 3

to

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

CESCA THERAPEUTICS INC.

(Exact name of registrant as specified in its charter)

Delaware	**3821**	**94-3018487**
(State or other jurisdiction of incorporation or organization)	**(Primary Standard Industrial Classification Code Number)**	**(I.R.S. Employer Identification No.)**

2711 Citrus Road

Rancho Cordova, California 95742

(916) 858-5100

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Vivian Liu

Chief Operating Officer

2711 Citrus Road

Rancho Cordova, California 95742

(916) 858-5100

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Curt P. Creely, Esq.	**Jeffrey Fessler, Esq.**
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Approximate date of commencement of proposed sale to the public:

As soon as practicable after this Registration Statement is declared effective.

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended, check the following box:

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If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer		Accelerated filer
Non-accelerated filer	(Do not check if a smaller reporting company)	Smaller reporting company
Emerging growth company		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	**Proposed Maximum Aggregate Offering Price** [1][2]	**Amount of Registration Fee**
Units, each Unit consisting of one share of common stock, par value $0.001 per share and one common warrant to purchase one share of common stock[3]	$5,000,000	$ 622.50
(i) Common stock included in the Units[4]	—	—

(ii) Common warrants included in the Units[4]	—	—	
Pre-funded Units, each Pre-funded Unit consisting of one pre-funded warrant to purchase one share of common stock and one common warrant to purchase one share of common stock[3]	$5,000,000	$ 622.50	
(i) Pre-funded warrants included in the Pre-funded Units[4]	—	—	
(ii) Common warrants included in the Pre-funded Units[4]	—	—	
Shares of common stock underlying pre-funded warrants included in the Pre-funded Units[3]	—	—	
Shares of common stock underlying common warrants included in the Units[3]	$5,000,000	$ 622.50	
Shares of common stock underlying common warrants included in the Pre-funded Units[3]	$5,000,000	$ 622.50	
Total	$20,000,000	$ 2,490	*

(1) Estimated solely for the purpose of calculating the registration fee pursuant to Rules 457(o) and 457(g)(2) under the Securities Act of 1933, as amended (the "Securities Act").

(2) Pursuant to Rule 416 under the Securities Act, the securities being registered hereunder include such indeterminate number of additional securities as may be issued after the date hereof as a result of stock splits, stock dividends or similar transactions.

(3) The proposed maximum aggregate offering price of the Units proposed to be sold in the offering will be reduced on a dollar-for-dollar basis based on the offering price of any Pre-funded Units offered and sold in the offering, and as such the proposed maximum aggregate offering price of the Units and Pre-funded Units (including the common stock issuable upon exercise of the pre-funded warrants included in the Pre-funded Units), if any, is $5,000,000.

(4) No additional registration fee is payable pursuant to Rule 457(i) under the Securities Act.

*Registration fee previously paid.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until the Registration Statement shall become effective on such date as the Commission acting pursuant to said Section 8(a), may determine.

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The information in this preliminary prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MAY 16, 2018

PRELIMINARY PROSPECTUS

Up to 4,672,897 Units (each Unit contains One Share of Common Stock and One

Common Warrant to Purchase One Share of Common Stock)

Up to 4,672,897 Pre-funded Units (each Pre-funded Unit contains One Pre-funded Warrant to Purchase

One Share of Common Stock and One Common Warrant to Purchase One Share of Common Stock)

Shares of Common Stock Underlying the Pre-funded Warrants and

Shares of Common Stock Underlying the Common Warrants

We are offering up to 4,672,897 units, each unit consisting of one share of our common stock and one common warrant to purchase one share of our common stock (together with the shares of common stock underlying such common warrants). Each common warrant contained in a unit will have an exercise price per share equal to $ per share. The common warrants contained in the units will be exercisable immediately and will expire on the five year anniversary of the original issuance date. We are also offering the shares of our common stock that are issuable from time to time upon exercise of the common warrants contained in the units.

We are also offering the opportunity to purchase, if the purchaser so chooses, up to 4,672,897 pre-funded units to purchasers whose purchase of units in this offering would otherwise result in the purchaser, together with its affiliates

and certain related parties, beneficially owning more than 4.99% of our outstanding common stock immediately following the consummation of this offering (each pre-funded unit consisting of one pre-funded warrant to purchase one share of our common stock and one common warrant to purchase one share of our common stock) in lieu of units that would otherwise result in a purchaser's beneficial ownership exceeding 4.99% of our outstanding common stock (or at the election of the purchaser, 9.99%). Each pre-funded warrant contained in a pre-funded unit will be exercisable for one share of our common stock. The purchase price of each pre-funded unit is equal to the price per unit being sold to the public in this offering, minus $0.01, and the exercise price of each pre-funded warrant included in the pre-funded unit is $0.01 per share. The pre-funded warrants expire when exercised in full. This offering also relates to the shares of common stock issuable upon exercise of any pre-funded warrants contained in the pre-funded units sold in this offering.

For each pre-funded unit we sell, the number of units we are offering will be decreased on a one-for-one basis. Because we will issue a common warrant as part of each unit or pre-funded unit, the number of common warrants sold in this offering will not change as a result of a change in the mix of the units and pre-funded units sold. Each common warrant contained in a pre-funded unit will have an exercise price per share equal to $ per share. The common warrants contained in the pre-funded units will be exercisable immediately and will expire on the five year anniversary of the original issuance date. We are also offering the shares of our common stock that are issuable from time to time upon exercise of the common warrants contained in the pre-funded units.

The units and the pre-funded units will not be issued or certificated. The shares of common stock or pre-funded warrants, as the case may be, and the common warrants can only be purchased together in this offering but the securities contained in the units or pre-funded units will be issued separately.

Our common stock is listed on the Nasdaq Capital Market under the symbol "KOOL". On May 11, 2018, the closing sale price of our common stock on the Nasdaq Capital Market was $1.07 per share. The public offering price per unit or pre-funded unit, as the case may be, will be determined between us and the placement agent based on market conditions at the time of pricing, and may be at a discount to the current market price of our common stock. There is no established public trading market for the warrants, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants on any national securities exchange or other trading market. Without an active trading market, the liquidity of the warrants will be limited.

You should read carefully this prospectus and any applicable prospectus supplement or free writing prospectus, together with the additional information described in this prospectus under the headings "Incorporation of Certain Information by Reference" and "Where You Can Find More Information," before you invest in any of our securities.

Investing in our securities involves risks. You should carefully read and consider the "Risk Factors" beginning on page 9 of this prospectus before investing. You should also consider the risk factors described or referred to in any documents incorporated by reference in this prospectus, and in any applicable prospectus supplement, before investing in these securities.

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Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

We have retained H.C. Wainwright & Co., LLC to act as our exclusive placement agent in connection with this offering. and to use its "best efforts" to solicit offers to purchase the securities being offered pursuant to this prospectus. The placement agent has no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of the securities. There is no required minimum number of securities that must be sold as a condition to completion of this offering. Because there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth above. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell an amount of securities sufficient to pursue the business goals outlined in this prospectus. In addition, because there is no escrow account and no minimum offering amount in this offering, investors could be in a position where they have invested in our Company, but we are unable to fulfill our objectives due to a lack of interest in this offering. Also, any proceeds from the sale of securities offered by us will be available for our immediate use, despite uncertainty about whether we would be able to use such funds to effectively implement our business plan.

	Per Unit	**Per Pre-Funded Unit**	**Total**
Public offering price	$	$	$
Placement agent fees [(1)]	$	$	$
Proceeds, before expenses, to us [(2)]	$	$	$

(1) See "Plan of Distribution" beginning on page 30 for more information on this offering and the placement agent fees and expenses.

(2) We estimate the total expenses of this offering payable by us, excluding the placement agent fee, will be approximately $225,000. All costs associated with the registration will be borne by us.

Delivery of the securities offered hereby is expected to be made on or about , 2018.

H.C. Wainwright & Co.

The date of this prospectus is _____, 2018

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Unless the context otherwise requires, references in this prospectus to “we,” “us,” “our” or similar terms, as well as references to “Cesca” or the “Company,” refer to Cesca Therapeutics Inc. and its consolidated subsidiaries. This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission, which we refer to as the SEC or the Commission, utilizing a registration process.

You should rely only on the information contained in this prospectus. We have not, and the placement agent has not, authorized anyone to provide you with any information other than that contained or incorporated by reference in this prospectus or in any applicable prospectus supplement or free writing prospectus prepared by or on behalf of us to which we have referred you. We are offering to sell, and seeking offers to buy, the securities covered hereby only in jurisdictions where offers and sales are permitted. You should not assume that the information contained in this prospectus or any prospectus supplement or free writing prospectus is accurate as of any date other than the date on the front cover of those documents, or that the information contained in any document incorporated by reference is accurate as of any date other than the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates. We are not, and the placement agent is not, making an offer of these securities in any jurisdiction where the offer is not permitted.

For investors outside the United States: We have not, and the placement agent has not, taken any action that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the securities covered hereby the distribution of this prospectus outside the United States.

We further note that the representations, warranties and covenants made by us in any agreement that is incorporated by reference or filed as an exhibit to the registration statement of which this prospectus is a part were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Information contained in, and that can be accessed through, our web site *www.cescatherapeutics.com* shall not be deemed to be part of this prospectus or incorporated herein by reference and should not be relied upon by any prospective investors for the purposes of determining whether to purchase the shares offered hereunder.

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PROSPECTUS SUMMARY

This summary highlights selected information contained elsewhere in this prospectus, and does not contain all of the information that you should consider before investing in our securities. You should read this summary together with the entire prospectus, including our financial statements, the notes to those financial statements and the additional information described in this prospectus under the heading "Where You Can Find More Information," before making an investment decision. See the "Risk Factors" section of this prospectus beginning on page 9 and in the documents incorporated by reference into this prospectus for a discussion of the risks involved in investing in our securities.

Overview

Cesca develops, commercializes and markets a range of automated technologies for cell-based therapies. Since the 1990's, Cesca has been the pioneer and one of the leading developers and suppliers of automation technologies for the isolation, purification and storage of stem cells for the cord blood banking industry. In July 2017, a Cesca subsidiary, ThermoGenesis Corp. (ThermoGenesis), completed the strategic acquisition of the business and substantially all of the assets of SynGen Inc., a research and development company for automated cellular processing, and the products from both companies were combined to develop a proprietary CAR-TXpress™ platform that addresses the critical unmet need for better chemistry, manufacturing and controls (CMC) for the emerging immuno-oncology field, in particular, the chimeric antigen receptor T cell (CAR-T) market.

Immunotherapy has become the "next pillar" of cancer treatment, in addition to the traditional surgical removal, radiation and chemotherapy. Immunotherapy stimulates the patient's own immune system to fight cancer cells, and is fairly well-tolerated. Unlike chemotherapy and radiation, immunotherapy is designed to leave healthy cells unscathed. In 2017, two CAR-T cell based immunotherapeutic drugs were approved by the U.S. Food and Drug Administration (FDA). Kymriah® manufactured by Novartis was approved for the treatment of children with acute lymphoblastic leukemia (ALL) and Yescarta® manufactured by Kite Pharma for adults with advanced lymphomas. Both CAR-T drugs have reported over 80% response rate in the intended-to-treat cancer patient group. At the end of 2017, there were over 400 CAR-T cell related immune-oncology clinical trials globally registered on the National Institute of Health (NIH) website, clinicaltrials.gov. These trials target a wide variety of hematopoietic and solid tumors. However, the current high cost and low capacity of drugmakers to manufacture CAR-T cells are significant barriers affecting future applications and affordability of these new immunotherapies.

In November 2017, the Company introduced its CAR-TXpress™ system, a proprietary low-cost, functionally closed and semi-automated system for CAR-T cell manufacturing. The CAR-TXpress™ platform addresses critical unmet needs for improving CMC for the emerging CAR-T immuno-oncology field. CAR-TXpress™ eliminates the use of ficoll and replaces the use of magnetic beads for T cell isolation speeding up time-consuming steps using traditional methods in the cell manufacturing process. Such improvement may drastically reduce processing time and increase efficiency of the manufacturing process, which is intended to drive down the overall manufacturing cost as well as increase the

manufacturing capacity for future CAR-T drugmakers.

Through ThermoGenesis, the Company is currently developing the X-Series™ of devices and reagent kits as part of the CAR-TXpress™ platform. The initial X-Series™ products are intended for research use and/or non-commercial manufacturing of cell-based products for clinical research. The Company expects to do a soft launch during the second quarter of 2018, with initial shipments planned for research laboratories and key opinion leaders in the CAR-T research space. The Company is also developing commercial manufacturing devices and reagent kits for current good manufacturing practices (cGMP) manufacturing of CAR-T for drug developers. In addition, ThermoGenesis is actively in discussions with potential global distribution partners for the X-Series™ products. More details of the X-Series™ products are described in the "Product" section below.

In addition to selling the "off-the-shelf" X-Series™ products, we are also planning to enter into the CAR-T third party cellular process development and manufacturing service business by collaborating with, and possibly establishing our own contract development and manufacturing organizations (CDMO) in the U.S. and China, the two leading markets with the highest numbers of active CAR-T clinical trials. Given the number of ongoing clinical trials registered globally, we believe this represents a significant growth opportunity for our CAR-TXpress™ platform to address the COGS issue for these exciting potential new treatments.

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In the stem cell and regenerative medicine field, Cesca continues to provide automation technologies for cord blood banking and autologous stem cell applications. Our AutoXpress® (AXP®) technology platform is a leading automated stem cell isolation device product for the cord blood banking industry. Cesca also has a proprietary point-of-care, autologous stem cell-based therapy under development for the treatment of patients with critical limb ischemia (CLI). The Company's 362 patient, multi-center pivotal phase 3 Critical Limb Ischemia Rapid Stem Cell Treatment (CLIRST) trial is designed to evaluate the safety and efficacy of autologous stem cell-based therapy to stimulate the regeneration of blood vessels, promote wound healing and prevent amputation. Cesca's CLI trial design was accepted and approved by the FDA. Previous clinical studies using Cesca's proprietary, point-of-care-technologies have demonstrated the regeneration of blood vessels and improved blood circulation in the limbs, using a patient's own bone marrow derived stem cells. The Company is in early stage development of autologous stem cell based therapy intended to treat patients with acute myocardial infarction and cartilage tissue degeneration, addressing significant unmet needs in the vascular, cardiology and orthopedic markets.

Cesca is an affiliate, through common controlling ownership, of the Boyalife Group, a China-based industry research alliance encompassing top research institutions for stem cell and regenerative medicine. As of May 11, 2018, approximately 60% of our outstanding common stock is owned by Boyalife (Hong Kong) Limited.

Business Strategy

Our business strategy is to leverage our over 25 years of expertise, our strong intellectual property portfolio and significant know-how in the automated cellular processing field to develop automated cellular processing devices and processes for the fast evolving immunotherapeutic field, including more efficient methods of manufacturing CAR-T cells. Our CAR-TXpress platform addresses many of critical unmet needs for improving CAR-T cell manufacturing and reducing cost. Our intention is to aggressively pursue these new growth opportunities in this emerging field of immuno-oncology, while continuing to support the performance and competitiveness of our flagship product lines in the cord blood and stem cell banking arena.

In 2018, we plan to pursue business opportunities through two separate business divisions which focus on immuno-oncology and regenerative medicine, respectively.

In the immuno-oncology field:

Launch X-Series™ devices and reagents for research use only, including the X-Mini™, and X-Auto™ kits for cellular isolation and purification and non-commercial manufacturing of cell-based products for clinical research.
Develop and launch our X-Series™ devices and reagents for clinical use, including our X-Clini™ kit for cGMP commercial manufacturing of CAR-T cells for drug developers and manufacturers.

Expand CDMO for immuno-oncology through internal and external efforts, including, but not limited to, partnerships, licensing, or co-development transactions.

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In the stem cell and regenerative medicine field:

Sustain our market leadership position in automated devices for the separation and concentration of stem cell preparation for the cord blood banking market.
Continue supporting product registration and marketing of automated devices for the separation and concentration of bone marrow-derived stem cell preparation for the point-of-care clinical application market.
Partner our clinical development programs, including our lead Critical Limb Ischemia Rapid Stem Cell Treatment (CLIRST) phase III clinical trial, with third parties to maximize the value of our existing clinical development programs while eliminating our costs for running clinical trials.

Recent Key Events and Accomplishments

Acquired the assets of SynGen Inc. (SynGen). On July 7, 2017, our subsidiary, ThermoGenesis, acquired the business and substantially all of the assets of SynGen, a privately held Sacramento, California-based technology company that develops, markets, and sells advanced cell separation tools and accessories. In the transaction (SynGen Transaction), ThermoGenesis acquired substantially all of SynGen's operating assets, including its proprietary cell processing platform. In exchange, ThermoGenesis issued to SynGen shares of ThermoGenesis common stock that, after giving effect to the issuance, constitute 20% of ThermoGenesis' outstanding common shares, and ThermoGenesis also made a one-time cash payment of $1.0 million to SynGen. Immediately prior to the SynGen Transaction, the Company contributed the assets, business, and current liabilities of its blood and bone-marrow processing device business to ThermoGenesis and will operate such business (together with the acquired business) through the ThermoGenesis subsidiary.

Increased Line of Credit by $5 Million. On September 13, 2017, we entered into an amendment to the Credit Agreement with Boyalife Investment Fund II, Inc. increasing our maximum borrowing availability under our debt facility thereunder (the Debt Facility) from $5.0 million to $10.0 million.

Received two new patent issuances for CAR-T cell processing. In 2017, the U.S. Patent and Trademark Office (USPTO) awarded ThermoGenesis two new U.S Patents, No. 9,695,394 and 9,821,111, both entitled "Cell Separation Devices, Systems, and Methods." These two new patents include our apparatus and method claims that protect our proprietary technology for isolating and harvesting purified populations of rare, therapeutically critical target cells from blood, bone marrow, leukapheresis product, and other cell sources, while maintaining the viability of the cells under asceptic conditions. This advanced cell separation technology, known as Buoyancy-Activated Cell Separation, is key to the ongoing development of Cesca's CAR-TXpress™ platform.

Introduced the CAR-TXpress™ platform. In September 2017, ThermoGenesis formally introduced the CAR-TXpress™ cellular manufacturing platform technology at the CAR-TCR Summit in Boston. CAR-TXpress™ is a proprietary, ficoll-free, magnetic beads free, functionally closed cellular processing platform that addresses the critical unmet need for improving manufacturing capacity and cost control for the emerging CAR-T cell based immune-oncology market.

Raised $2.4 Million in Equity Financing. On December 1, 2017, we sold 898,402 shares of common stock at a price of $3 per share. The net proceeds from the sale and issuance of the shares, after deducting the offering expenses borne by the Company were approximately $2,368,000.

Filed additional patents covering our CAR-T cell processing technology. Most recently, we filed a fourth patent application with the USPTO for our CAR-T cell manufacturing technology addressing key issues to enhance cellular purification and activation. The provisional patent application is intended to expand patent coverage of the ability of our CAR-TXpress™ platform to activate and transduce CD3+ T cells and expand genetically modified CART-cells.

Expanded into CDMO business through exclusive license agreement in Asia. In March 2018, we entered into an exclusive license agreement with IncoCell, a wholly owned subsidiary of the Boyalife Group, to implement our CDMO strategy for China and other regional countries in Asia. As of the end of 2017, more than 400 CAR-T cell clinical trials were registered with clinicaltrials.gov, one third were originated from the U.S. and one third from China. IncoCell currently operates a 160,000 sq. ft. cGMP facility in Tianjin, China.

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Raised $1.2 Million in Equity Financing. On March 28, 2018, we closed a registered direct offering of common stock consisting of an aggregate of 609,636 shares of common stock at a price of $2.27 per share for gross proceeds of $1.38 million. After deducting the placement agent's commission and other estimated offering expenses payable by us, the net proceeds to us in the offering were approximately $1.2 million. Additionally, the investors received unregistered warrants in a simultaneous private placement to purchase up to 304,818 shares of common stock. The warrants have an exercise price of $2.68 per share and shall be exercisable commencing six months following the issuance date and have a term of 5.5 years.

Amended and Restated Debt Facility. On April 16, 2018, we entered into a First Amended and Revolving Restated Credit Agreement (Amended Credit Agreement) and Second Amended and Restated Convertible Promissory Note (Amended Note) with Boyalife Asset Holding II, Inc. (Lender), the successor by merger to Boyalife Investment Fund II, Inc. The Amended Credit Agreement and Amended Note modified and amended the Debt Facility as follows:

The Lender was granted the right to convert, at any time, outstanding principal and accrued but unpaid interest under the Amended Note into shares of our common stock at a conversion price equal to $1.61 per share, subject to customary adjustments for stock splits, reverse stock splits, and the like (Fixed Conversion Price). Notwithstanding the foregoing, if the Amended Note is converted after March 6, 2022 (Maturity Date), the conversion price of the Amended Note will be the lower of the Fixed Conversion Price or an amount equal to 90% of the average volume-weighted average price of our common stock during the 10 trading days immediately prior to the Maturity Date. Prior to the April 2018 amendment, the debt was convertible by the Lender only upon maturity of the obligation. The Amended Note contains a conversion blocker provision (the Conversion Blocker) providing that the number of shares issuable upon conversion of the Amended Note may not exceed 19.99% of our outstanding shares of common stock on the date the Debt Facility was originally entered into (March 6, 2017), unless we obtain stockholder approval for such issuance in the manner required by the Marketplace Rules of the Nasdaq Stock Market, Inc. Based on the number of outstanding shares of common stock at the time the Debt Facility was entered into, in the absence of stockholder approval, the Amended Note is convertible into no more than 1,976,291 shares of common stock.

If we in the future issue shares of common stock, or are deemed to issue shares of common stock, prior to the full payment or conversion of the Amended Note for a price per share lower than the Fixed Conversion Price then in effect, the Fixed Conversion Price will be reduced to the price per share paid in the future issuance, with certain customary exceptions for equity plan issuances and issuances pursuant to certain strategic transactions. Based on a conversion price adjustment resulting from an assumed public offering price of $1.07 per unit in this offering, the last reported sale price of our common stock on the Nasdaq Capital Market on May 11, 2018, and assuming that stockholder approval of the elimination of the conversion blocker is obtained, the Amended Note would be convertible into an aggregate of 7,679,439 shares of our common stock based on $7.2 million of principal and $1.1 million in accrued interest under the Amended Note as of March 31, 2018.

We were granted the right to defer the payment of the $657,000 interest payment that was originally due on December 31, 2017 until December 31, 2018, or if earlier, the date on which we completes a debt or equity financing transaction resulting in gross proceeds of $5.0 million or more.

We further amended the Debt Facility on May 7, 2018 to provide that the Debt Facility is secured by a security interest in the stock held by us in our ThermoGenesis subsidiary.

In connection with Amended Credit Agreement, on April 16, 2018, we entered into a First Amended and Restated Nomination and Voting Agreement (Amended Nomination Agreement), which amends and restates the Nomination and Voting Agreement originally entered into on February 13, 2016, by the Company and Boyalife (Hong Kong) Limited (Boyalife HK). Boyalife HK is the Company's largest stockholder and an affiliate of the Lender. The Amended Nomination Agreement provides that Boyalife HK will have the right to designate a number of members of our Board of Directors that is in proportion to the "Boyalife Ownership Percentage", which is Boyalife HK's and its affiliates' combined percentage ownership of outstanding common stock, treating as outstanding any shares of common stock underlying convertible securities that are immediately exercisable by Boyalife HK and its affiliates' (including under the Amended Note) without any further payment (Boyalife Ownership Percentage). The Amended Nomination Agreement will terminate according to its terms when and if the Boyalife Ownership Percentage falls below 20%.

X-Series™ Products

Immuno-Oncology Products

In November 2017, we announced the development of a proprietary CAR-TXpress™ platform that addresses the critical unmet need to improve CMC manufacturing for the emerging CAR-T therapies for cancer patients. CAR-TXpress™ eliminates the use of ficoll and magnetic beads for cell isolation procedures, and reduces processing time and increases cell recovery rates. The CAR-TXpress™ platform includes the following X-Series™ products:

X-LAB™ for Cell Isolation – a semi-automated, functionally-closed, ficoll-free, system for the rapid isolation of different target cells from various sources including blood and blood products.

X-BACS™ for Cell Purification – a semi-automated, "functionally closed" system that employs a single-use sterile, injection molded plastic disposable cartridge in which streptavidin coated lipid microbubbles and biotinylated antibodies bind to, and make buoyant, target cells (such as CD3+ T-cells) so they separate from non-target cells during centrifugation with great efficiency. Simultaneously, the non-target cells are automatically transferred to a separate cartridge chamber leaving a highly-purified and viable population of target cells for research or clinical use.

X-WASH™ for Washing and Reformulation – a semi-automated, functionally-closed system that washes and volume-reduces fresh or thawed cells or cell cultures to a user-defined final volume.

BioArchive® for Cryogenic Cellular Product Storage – an automated, controlled-rate-freezing, liquid nitrogen freezer intended for the cryopreservation and single-cassette based storage of clinical samples. The BioArchive® provides customers who need to store therapeutic cell populations in cryogenic storage (-196°C) with a solution that combines the individualized controlled rate freezing of each sample, robotic storage and retrieval of each sample and real-time chain of custody management.

Fungicides					
325	349	+ 7.4	651	688	+ 5.7
Herbicides					
540	547	+ 1.3	1,073	1,100	+ 2.5
Seed Treatment					
66	73	+ 10.6	194	211	+ 8.8
Environmental Science					
215	216	+ 0.5	420	402	4.3
BioScience					
68	74	+ 8.8	167	204	+ 22.2
EBITDA*					
232	**341**	**+ 47.0**	**877**	**897**	**+ 2.3**
Operating result (EBIT)					
37	**159**	**484**	**538**	**+ 11.2**	
of which special items					
(49)	(41)	(15)	(41)		
Gross cash flow*					
154	**192**	**+ 24.7**	**670**	**539**	**19.6**
Net cash flow*					
735	**585**	**20.4**	**543**	**346**	**36.3**

* for definition see Bayer Group Key Data on page 2

Bayer CropScience

Following a strong first quarter, the **Bayer CropScience** subgroup increased its year-on-year **sales** in the second quarter as well. Business was up by 75 million, or 4.8 percent, to 1,642 million; when adjusted for currency and portfolio effects, the improvement was 7.5 percent.

The **Crop Protection** Business Group saw sales increase by 5.3 percent to 1,352 million.

Business in our highest-volume product group, Confidor®/Gaucho®/Admire®/Merit®, improved in the second quarter by 5.3 percent, or by 10.7 percent in local currencies. This was mainly attributable to weather conditions favorable to our business and the delayed start in part into the second quarter to the insecticides business.

Sales of our Folicur® fungicide rose by 7.2 percent to 104 million. This resulted both from continuing efforts to eliminate Asian rust in Brazil and from the weather conditions in Europe, which led to higher sales of crop protection products for cereals.

Due to lower sales in Canada and the United States, in particular, our Puma® herbicide saw a year-on-year decline of 13.7 percent in the second quarter. However, sales remained steady for the first half as a whole.

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Best-Selling Bayer CropScience Products	2nd Quarter			1st Half		
million	2004	Change %	Change in local currencies %	2004	Change %	Change in local currencies %
Confidor®/Gaucho®/Admire®/Merit® (Insecticides/Seed Treatment/Environmental Science)	158	+ 5.3	+ 10.7	329	5.2	0.6
Folicur®/Raxil® (Fungicides/Seed Treatment)	104	+ 7.2	+ 12.4	212	+ 21.1	+ 24.6
Puma® (Herbicides)	82	13.7	9.5	142	0.7	+ 3.5
Basta®/Liberty® (Herbicides)	73	+ 17.7	+ 22.6	123	+ 23.0	+ 29.0
Betanal® (Herbicides)	64	5.9	1.5	116	3.3	0.0
FLINT®/Stratego®/Sphere® (Fungicides)	53	7.0	1.8	113	+ 0.9	+ 4.5
Decis®/K-Othrine® (Insecticides/Environmental Science)	54	+ 5.9	+ 9.8	92	+ 10.8	+ 14.5
Temik® (Insecticides)	20	20.0	24.0	68	+ 36.0	+ 46.0
Hussar® (Herbicides)	21	4.5	9.1	60	3.2	1.6
Axiom®/Define®/Epic® (Herbicides)	23	+ 9.5	+ 9.5	55	+ 31.0	+ 38.1
Total	**652**	**+ 0.6**	**+ 4.6**	**1,310**	**+ 6.2**	**+ 10.5**
Proportion of Bayer CropScience sales	39.7%			38.8%		

Our Basta® herbicide put in a strong showing, with sales advancing by 17.7 percent overall to 73 million. The product performed particularly well in Canada.

Sales of our FLINT® fungicide receded by 7.0 percent to 53 million in a difficult western European market for products containing strobilurins as the active substance. In local currencies the decrease was 1.8 percent. However, we were able to more than compensate for this decline through the successful introduction of the innovative Proline® family of cereal fungicides in Germany.

Compared with the same period last year, sales of the **Environmental Science** Business Group remained steady at 216 million. After adjustment for currency changes, the improvement was 4.6 percent. This was due in part to higher sales of the insecticide Merit® for landscape management and of the U.S. home and garden products.

Sales of the **BioScience** Business Group moved ahead year on year by 8.8 percent to 74 million, with strong contributions coming from InVigor® (canola seed) and FiberMax® (cotton seed), as well as from our rice seed products.

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CropScience Net sales by market (million)	2nd Quarter 2003	 2004	Change %	Change in local currencies %
Europe	615	641	+4.2	+4.3
North America	507	551	+8.7	+15.7
Asia/Pacific	222	228	+2.7	+3.0
Latin America/Africa/Middle East	223	222	0.4	+6.3
Total	**1,567**	**1,642**	**+4.8**	**+8.1**

The positive trend in the global crop protection market continued in the second quarter.

The industry benefited from favorable weather conditions in Europe, although sales were held back in some countries by high inventories from the previous year. Bayer expanded its sales in this region by 4.2 percent, improving particularly in fungicides.

In the North America region, too, our business performed very well in the second quarter, primarily as a result of good growing conditions for key crops: cereals, corn and soybeans. A further reason for the 8.7 percent growth in sales was the weather-related increase in the occurrence of corn pests. After adjustment for currency effects, sales advanced by 15.7 percent.

In Asia, market performance was unsatisfactory, particularly in the important Japanese and South Korean markets, as a result of intense competition and heavy pressure on prices. Bayer made modest gains in the region as a whole, with sales up by 2.7 percent.

Growth in the Latin America region remained brisk year on year. The increase in soybean acreages, coupled with a massive outbreak of Asian rust in soybean crops, triggered a marked increase in fungicide use, from which Bayer also benefited. Despite receding sales in the Middle East, we grew our business by 6.3 percent for the region as a whole in local currencies.

EBIT of **CropScience** rose by 122 million in the second quarter, to 159 million. This substantial increase in earnings resulted above all from higher sales and the achievement of further synergies from the integration of the ACS business. The special charges of 41 million comprise mainly restructuring expenses for site closures in the United Kingdom, as well as charges for legal risks. After adjustment, EBIT thus climbed by 114 million to 200 million.

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Bayer MaterialScience	2nd Quarter			1st Half		
million	2003	2004	Change %	2003	2004	Change %
Net sales	**1,854**	**2,091**	**+12.8**	**3,721**	**3,968**	**+6.6**
EBITDA*	**253**	**366**	**+44.7**	**555**	**647**	**+16.6**
Operating result (EBIT)	**93**	**215**	**+131.2**	**191**	**350**	**+83.2**
of which special items	(38)	0		(51)	0	
Gross cash flow*	**241**	**264**	**+9.5**	**522**	**495**	**5.2**
Net cash flow*	**174**	**141**	**19.0**	**337**	**193**	**42.7**

* for definition see Bayer Group Key Data on page 2

Bayer MaterialScience

In the second quarter of 2004, the **Bayer MaterialScience** subgroup increased sales by a gratifying 237 million, or 12.8 percent, to 2,091 million. Currency- and portfolio-adjusted sales jumped by 17.3 percent. **EBIT** rose by 122 million, or 131.2 percent, to 215 million, due especially to the improved earnings performance in Polycarbonates and Polyurethanes. The growth in EBIT before special items was 84 million, or 64.1 percent.

Materials	2nd Quarter			1st Half		
million	2003	2004	Change %	2003	2004	Change %
Net sales	**694**	**800**	**+15.3**	**1,389**	**1,500**	**+8.0**
Polycarbonates	417	489	+17.3	847	919	+8.5
Thermoplastic Polyurethanes	46	47	+2.2	90	92	+2.2
Wolff Walsrode	86	81	5.8	169	158	6.5
H.C. Starck	145	183	+26.2	283	331	+17.0
EBITDA*	**88**	**140**	**+59.1**	**190**	**232**	**+22.1**
Operating result (EBIT)	**33**	**78**	**+136.4**	**68**	**110**	**+61.8**
of which special items	(12)	0		(12)	0	
Gross cash flow*	**85**	**104**	**+22.4**	**178**	**179**	**+0.6**
Net cash flow*	**(22)**	**59**		**93**	**75**	**19.4**

* for definition see Bayer Group Key Data on page 2

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Materials

Sales of the **Materials** segment were up substantially compared with the second quarter of 2003, growing 15.3 percent to 800 million. When adjusted for currency and portfolio effects, sales growth was even stronger at 20.8 percent.

In this segment, the Polycarbonates Business Unit posted very pleasing growth of 72 million, or 17.3 percent, to 489 million. This was attributable particularly to strong demand from producers of optical storage media such as CDs and DVDs.

H.C. Starck also significantly boosted its performance year on year, growing sales by 26.2 percent. This was due mainly to the upturn in the electronics industry and to price increases for some products. In the North America region, we were able to grow faster than the market.

Materials	**2nd Quarter**			
Net sales by market (million)	**2003**	**2004**	**Change %**	**Change in local currencies %**
Europe	322	342	+6.2	+6.2
North America	148	178	+20.3	+27.7
Asia/Pacific	180	228	+26.7	+31.2
Latin America/Africa/Middle East	44	52	+18.2	+23.0
Total	**694**	**800**	**+15.3**	**+18.3**

Second-quarter sales of the segment increased by 6.2 percent in Europe. However, growth fell far short of that in the other regions due to the sluggish economy.

In North America, Bayer benefited from vigorous economic growth, increasing sales by a total of 20.3 percent 27.7 percent in local currencies thanks to strong demand for Makrolon® polycarbonate.

Buoyed by continuing strong demand from the electronics industry, sales in the Asia/Pacific region increased by 26.7 percent. High sales of polycarbonate in China played a key role in this growth.

EBIT of the **Materials** segment advanced by 45 million to 78 million in the second quarter, due particularly to a demand-driven increase in production capacity utilization. This earnings increase was also made possible in part by the success of our cost-containment programs and by the absence of special charges that were still a factor in the previous year. Significantly higher raw material costs could only be passed on to customers in part through price increases.

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Systems	2nd Quarter			1st Half		
million	2003	2004	Change %	2003	2004	Change %
Net sales	**1,160**	**1,291**	**+11.3**	**2,332**	**2,468**	**+5.8**
Polyurethanes	797	912	+14.4	1,587	1,732	+9.1
Coatings, Adhesives, Sealants	296	323	+9.1	616	624	+1.3
Inorganic Basic Chemicals	58	51	12.1	110	100	9.1
Others	9	5	44.4	19	12	36.8
EBITDA*	**165**	**226**	**+37.0**	**365**	**415**	**+13.7**
Operating result (EBIT)	**60**	**137**	**+128.3**	**123**	**240**	**+95.1**
of which special items	(26)	0		(39)	0	
Gross cash flow*	**156**	**160**	**+2.6**	**344**	**316**	**8.1**
Net cash flow*	**196**	**82**	**58.2**	**244**	**118**	**51.6**

* for definition see Bayer Group Key Data on page 2

Systems

Sales of the **Systems** segment moved ahead by 11.3 percent to 1,291 million compared to the previous year, and by 15.3 percent when adjusted for currency and portfolio effects.

Polyurethanes performed gratifyingly, with sales advancing by 14.4 percent. MDI production has been increased to full capacity. As raw material costs remain high, nearly all producers have implemented price increases. The announcement of further price adjustments for the third quarter led to our customers building up inventories in the second quarter. The polyether business also contributed to improved sales through higher prices and volumes.

Growth in the Coatings, Adhesives, Sealants Business Unit was largely achieved with the aliphatic and aromatic isocyanates product lines (for surface coatings).

Sales of Inorganic Basic Chemicals declined by 12.1 percent due to a sharp drop in prices for caustic soda.

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Systems	2nd Quarter			Change in local currencies
Net sales by market (million)	**2003**	**2004**	**Change %**	**%**
Europe	535	575	+7.5	+7.6
North America	345	384	+11.3	+18.1
Asia/Pacific	163	194	+19.0	+21.1
Latin America/Africa/Middle East	117	138	+17.9	+21.8
Total	**1,160**	**1,291**	**+11.3**	**+14.1**

Despite stagnation in the automotive industry, sales in the Europe region improved by a gratifying 7.5 percent to 575 million.

Sales in North America and the Asia/Pacific region climbed 18.1 and 21.1 percent, respectively, due especially to continuing strong demand from the construction industry for MDI for thermal insulating materials.

Currency-adjusted sales in the Latin America/Africa/Middle East region rose by 21.8 percent, mostly as a result of good business with polyurethane raw materials. Due to restrained demand from the construction industry, only single-digit growth was recorded in Latin America.

EBIT of the **Systems** segment improved by 77 million to 137 million in the second quarter. EBIT before special items grew by 51 million, or 59.3 percent. High utilization of capacities and successful cost-containment measures were largely responsible for this rise in earnings. Sharply increased raw material prices, especially for benzene, could only be partially offset by price increases.

Lanxess	2nd Quarter			1st Half		
million	**2003**	**2004**	**Change %**	**2003**	**2004**	**Change %**
Net sales	**1,451**	**1,592**	**+9.7**	**2,960**	**3,070**	**+3.7**
Chemical Intermediates	272	288	+5.9	546	570	+4.4
Performance Chemicals	478	488	+2.1	970	954	1.6
Engineering Plastics	333	424	+27.3	683	810	+18.6
Performance Rubber	340	371	+9.1	696	695	0.1
Others	28	21	25.0	65	41	36.9
EBITDA*	**57**	**135**	**+136.8**	**186**	**271**	**+45.7**
Operating result (EBIT)	**(47)**	**20**		**(30)**	**95**	
of which special items	(23)	(31)		(25)	(31)	
Gross cash flow*	**47**	**113**	**+140.4**	**155**	**224**	**+44.5**
Net cash flow*	**(74)**	**78**		**(123)**	**16**	

* for definition see Bayer Group Key Data on page 2

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Lanxess

Sales of the **Lanxess** subgroup advanced by 141 million, or 9.7 percent, to 1,592 million in the second quarter, and by 11.6 percent when adjusted for currency and portfolio effects.

Business in Chemical Intermediates grew by 5.9 percent over the second quarter of 2003 to 288 million, due particularly to increased sales of basic chemicals in North America and inorganic pigments in Europe.

Lanxess	**2nd Quarter**			**Change in local currencies**
Net sales by market (million)	**2003**	**2004**	**Change %**	**%**
Europe	782	820	+4.9	+4.7
North America	322	369	+14.6	+21.1
Asia/Pacific	222	255	+14.9	+16.3
Latin America/Africa/Middle East	125	148	+18.4	+22.1
Total	**1,451**	**1,592**	**+9.7**	**+11.6**

Performance Chemicals boosted sales by 2.1 percent year on year to 488 million. Gratifying gains were made above all by Rhein Chemie, Material Protection Products and Ion Exchange Resins.

Sales of Engineering Plastics were up by 27.3 percent compared to the same period of 2003, to 424 million. This was mainly attributable to the Styrenic Resins business, where we were able to grow volume sales and pass on raw material cost increases to some extent in our selling prices.

Sales of Performance Rubber moved ahead by 9.1 percent to 371 million. The Technical Rubber Products business grew by 17.1 percent, while sales of Butyl Rubber rose by 10.9 percent as a result of higher prices and volumes.

EBIT of the **Lanxess** segment amounted to 20 million in the second quarter, a year-on-year gain of 67 million. We improved EBIT before special items by 75 million. In a pleasing development, we increased EBITDA by 78 million to 135 million.

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Bayer Group Summary Cash Flow Statements

	2nd Quarter		1st Half	
million	**2003**	**2004**	**2003**	**2004**
Gross cash flow*	**903**	**831**	**2,330**	**1,815**
Changes in working capital	34	315	(1,208)	(968)
Net cash provided by operating activities	**937**	**1,146**	**1,122**	**847**
of which discontinuing operations	*(102)*	*(82)*	*(165)*	*(9)*
Net cash provided by (used in) investing activities	**(40)**	**55**	**949**	**215**
of which discontinuing operations	*(57)*	*(15)*	*(72)*	*(63)*
Net cash used in financing activities	**(1,318)**	**(977)**	**(1,093)**	**(1,135)**
of which discontinuing operations	*(159)*	*(67)*	*(237)*	*(72)*
Changes in cash and cash equivalents due to business activities	**(421)**	**224**	**978**	**(73)**
Cash and cash equivalents at beginning of period	**2,165**	**2,440**	**767**	**2,734**
Change due to exchange rate movements and to changes in scope of consolidation	(16)	(2)	(17)	5
Cash and cash equivalents at end of second quarter	**1,728**	**2,666**	**1,728**	**2,666**
Marketable securities and other instruments	30	215	30	215
Liquid assets as per balance sheets	**1,758**	**2,881**	**1,758**	**2,881**

* for definition see Bayer Group Key Data on page 2
2003 figures restated (for details see Notes, page 30 f)

Liquidity and Capital Resources

Compared to the same period of 2003, the gross cash flow of the Bayer Group receded by 72 million, or 8.0 percent, to 831 million. A diminishing effect came from higher payments associated with the utilization of provisions for early retirement programs, as well as from non-cash gains of 121 million resulting from a reduction in pension programs in the United States. By contrast, the net cash flow increased by 209 million, or 22.3 percent, to 1,146 million, due to a reduction in working capital. Depreciation and amortization amounted to 627 million in the second quarter; for the full year we expect depreciation and amortization to total approximately 2.3 billion.

Net cash of 55 million was provided by investing activities. Outflows of 237 million were partially offset by 70 million in cash receipts from sales of noncurrent assets. Interest and other cash inflows amounted to 222 million. Capital expenditures in the second half of 2004 will substantially exceed those of the first half (422 million). For the full year 2004, we expect capital expenditures to total around 1.4 billion.

Financing activities resulted in net cash outflows of 977 million, including dividend payments of 372 million, net loan repayments of 263 million and interest payments of 342 million, which decreased largely because of a reduction in our financial liabilities.

Cash and cash equivalents increased overall by 226 million to 2,666 million. Including marketable securities and other instruments, the Group had liquid assets of 2,881 million on June 30, 2004.

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Employees

On June 30, 2004 the Bayer Group had 113,600 employees, 1,800 fewer than at the start of the year. Headcount was reduced by 1,300 in Europe, 500 in North America and 100 in Asia/Pacific. The workforce in the Latin America/Africa/Middle East region grew by 100. The Bayer Group had 117,500 employees on June 30, 2003.

Personnel expenses in the second quarter of 2004 were down by 7.7 percent to 1,858 million. The first-half total of 3,708 million represents a year-on-year decrease of 5.3 percent.

Bayer Group Consolidated Statements of Income (Summary)

million

	2nd Quarter		1st Half	
	2003	**2004**	**2003**	**2004**
Net sales	**7,256**	**7,583**	**14,612**	**14,945**
of which discontinuing operations	*1,604*	*1,754*	*3,253*	*3,380*
Cost of goods sold	(4,143)	(4,494)	(8,114)	(8,470)
Gross profit	**3,113**	**3,089**	**6,498**	**6,475**
Selling expenses	(1,620)	(1,605)	(3,179)	(3,094)
Research and development expenses	(605)	(513)	(1,122)	(1,012)
General administration expenses	(384)	(423)	(761)	(813)
Other operating income	296	262	717	391
Other operating expenses	(325)	(286)	(582)	(603)
Operating result (EBIT)	**475**	**524**	**1,571**	**1,344**
of which discontinuing operations	*(55)*	*31*	*(53)*	*117*
Non-operating result	**(197)**	**(278)**	**(390)**	**(435)**
Income before income taxes	**278**	**246**	**1,181**	**909**
Income taxes	(149)	(115)	(459)	(372)
Income after taxes	**129**	**131**	**722**	**537**
Minority stockholders interest	(1)	(3)	(8)	(9)
Net income	**128**	**128**	**714**	**528**
Earnings per share ( )	**0.18**	**0.18**	**0.98**	**0.72**

2003 figures restated (for details see Notes, page 30 f)

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Bayer Group Consolidated Balance Sheets (Summary)

million

	June 30, 2003	June 30, 2004	Dec. 31, 2003
Assets			
Noncurrent assets			
Intangible assets	8,366	6,336	6,514
Property, plant and equipment	11,437	9,663	9,937
Investments	2,261	1,689	1,781
	22,064	**17,688**	**18,232**
Current assets			
Inventories	6,534	6,151	5,885
Receivables and other assets			
Trade accounts receivable	5,860	5,988	5,071
Other receivables and other assets	3,313	3,079	3,854
	9,173	**9,067**	**8,925**
Liquid assets	1,758	2,881	2,863
	17,465	**18,099**	**17,673**
Deferred taxes	**742**	**1,310**	**1,298**
Deferred charges	**357**	**274**	**242**
Total assets	**40,628**	**37,371**	**37,445**
of which discontinuing operations	*6,345*	*5,393*	*5,655*
Stockholders Equity and Liabilities			
Stockholders equity			
Capital stock and reserves	4,812	4,812	4,812
Retained earnings	10,480	8,753	10,479
Net income	714	528	(1,361)
Currency translation adjustment	(981)	(1,514)	(1,699)
Miscellaneous items	98	27	(18)
	15,123	**12,606**	**12,213**
Minority stockholders interest	**129**	**100**	**123**
Liabilities			
Long-term liabilities			
Long-term financial obligations	7,044	6,671	7,113
Miscellaneous long-term liabilities	83	105	98
Provisions for pensions and other post-employment benefits	4,992	5,020	5,072
Other long-term provisions	1,249	1,410	1,343
	13,368	**13,206**	**13,626**
Short-term liabilities			
Short-term financial obligations	2,992	2,699	2,313
Trade accounts payable	1,983	2,079	2,265
Miscellaneous short-term liabilities	1,950	1,709	2,361
Short-term provisions	2,424	2,903	2,448
	9,349	**9,390**	**9,387**
	22,717	**22,596**	**23,013**

of which discontinuing operations	*2,844*	*3,314*	*2,933*
Deferred taxes	**2,194**	**1,435**	**1,462**
Deferred income	**465**	**634**	**634**
Balance sheet total	**40,628**	**37,371**	**37,445**

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Bayer Group Consolidated Statements of Changes in Stockholders Equity (Summary)

million

	Capital stock and reserves	Retained earnings	Net income (loss)	Currency translation adjustment	Miscel-laneous items	Total
December 31, 2002	**4,812**	**10,076**	**1,060**	**(593)**	**(20)**	**15,335**
Dividend payment			(657)			(657)
Allocation to retained earnings		404	(403)			1
Exchange differences				(388)		(388)
Other changes in stockholders equity					118	118
Net income			714			714
June 30, 2003	**4,812**	**10,480**	**714**	**(981)**	**98**	**15,123**
December 31, 2003	**4,812**	**10,479**	**(1,361)**	**(1,699)**	**(18)**	**12,213**
Dividend payment			(365)			(365)
Allocation from retained earnings		(1,726)	1,726			0
Exchange differences				185		185
Other changes in stockholders equity					45	45
Net income			528			528
June 30, 2004	**4,812**	**8,753**	**528**	**(1,514)**	**27**	**12,606**

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Notes

Key Data by Segment

2nd Quarter **Bayer HealthCare**

Segments million	Pharmaceuticals/ Biological Products 2nd Quarter 2003	Pharmaceuticals/ Biological Products 2nd Quarter 2004	of which discontinuing operations Plasma 2nd Quarter 2003	of which discontinuing operations Plasma 2nd Quarter 2004	Consumer Care/ Diagnostics 2nd Quarter 2003	Consumer Care/ Diagnostics 2nd Quarter 2004	Animal Health 2nd Quarter 2003	Animal Health 2nd Quarter 2004
Net sales (external)	1,190	1,040	*153*	*162*	800	843	214	225
Change in	+ 2.0%	12.6%			17.6%	+ 5.4%	+ 0.9%	+ 5.1%
Change in local currencies	+ 15.2%	11.4%			4.2%	+ 9.5%	+ 15.1%	+ 8.8%
Intersegment sales	14	20			2	3	0	1
Operating result (EBIT)	150	65	*(8)*	*11*	191	107	45	45
Return on sales	12.6%	6.3%			23.9%	12.7%	21.0%	20.0%
Gross cash flow*	175	74	*2*	*22*	214	104	49	33
Net cash flow*	(152)	166	*(28)*	*4*	242	129	22	38
Depreciation and amortization	56	55	*7*	*12*	60	62	7	7

1st Half **Bayer HealthCare**

Segments million	Pharmaceuticals/ Biological Products 1st Half 2003	Pharmaceuticals/ Biological Products 1st Half 2004	of which discontinuing operations Plasma 1st Half 2003	of which discontinuing operations Plasma 1st Half 2004	Consumer Care/ Diagnostics 1st Half 2003	Consumer Care/ Diagnostics 1st Half 2004	Animal Health 1st Half 2003	Animal Health 1st Half 2004

Net sales (external)	2,321	2,216	*293*	*310*	1,598	1,613	393	403
Change in	4.2%	4.5%			16.8%	+ 0.9%	5.3%	+ 2.5%
Change in local currencies	+ 8.6%	+ 0.3%			2.8%	+ 6.9%	+ 8.9%	+ 7.8%
Intersegment sales	22	21			3	4	1	2
Operating result (EBIT)	353	229	*(23)*	*22*	436	188	85	77
Return on sales	15.2%	10.3%			27.3%	11.7%	21.6%	19.1%
Gross cash flow*	364	197	*(5)*	*33*	458	213	90	59
Net cash flow*	(45)	84	*(42)*	*(25)*	448	234	42	45
Depreciation and amortization	111	96	*14*	*12*	123	119	15	12

* for definition see Bayer Group Key Data on page 2

2003 figures restated (for details see Notes, page 30 f)

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Bayer CropScience		Bayer MaterialScience				Lanxess					
CropScience		Materials		Systems		Lanxess discontinuing operations		Reconciliation		Bayer Group	
2nd Quarter		2nd Quarter		2nd Quarter		2nd Quarter		2nd Quarter		2nd Quarter	
2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
1,567	1,642	694	800	1,160	1,291	*1,451*	*1,592*	180	150	7,256	7,583
+ 44.7%	+ 4.8%	7.3%	+ 15.3%	1.4%	+ 11.3%	*11.9%*	*+ 9.7%*			3.3%	+ 4.5%
+ 58.0%	+ 8.1%	+ 2.9%	+ 18.3%	+ 9.5%	+ 14.1%	*5.3%*	*+ 11.6%*			+ 7.3%	+ 7.1%
21	16	11	12	65	97	*28*	*73*	(141)	(222)		
37	159	33	78	60	137	*(47)*	*20*	6	(87)	475	524
2.4%	9.7%	4.8%	9.8%	5.2%	10.6%	*(3.2)%*	*1.3%*			6.5%	6.9%
154	192	85	104	156	160	*47*	*113*	23	51	903	831
735	585	(22)	59	196	82	*(74)*	*78*	(10)	9	937	1,146
195	182	55	62	105	89	*104*	*115*	63	55	645	627

Bayer CropScience		Bayer MaterialScience				Lanxess					
CropScience		Materials		Systems		Lanxess discontinuing operations		Reconciliation		Bayer Group	
1st Half		1st Half		1st Half		1st Half		1st Half		1st Half	
2003	2004	2003	2004	2003	2004	2003	2004	2003	2004	2003	2004
3,228	3,374	1,389	1,500	2,332	2,468	*2,960*	*3,070*	391	301	14,612	14,945
+ 65.6%	+ 4.5%	3.1%	+ 8.0%	3.4%	+ 5.8%	*8.3%*	*+ 3.7%*			0.8%	+ 2.3%
+ 77.7%	+ 8.6%	+ 7.5%	+ 12.9%	+ 7.7%	+ 10.4%	*0.8%*	*+ 6.8%*			+ 9.8%	+ 6.6%
32	31	21	25	100	165	*138*	*158*	(317)	(406)		
484	538	68	110	123	240	*(30)*	*95*	52	(133)	1,571	1,344
15.0%	15.9%	4.9%	7.3%	5.3%	9.7%	*(1.0)%*	*3.1%*			10.8%	9.0%
670	539	178	179	344	316	*155*	*224*	71	88	2,330	1,815
543	346	93	75	244	118	*(123)*	*16*	(80)	(71)	1,122	847
393	359	122	122	242	175	*216*	*176*	131	111	1,353	1,170

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Key Data by Region

2nd Quarter

Regions million	Europe 2nd Quarter 2003	Europe 2nd Quarter 2004	North America 2nd Quarter 2003	North America 2nd Quarter 2004
Net sales (external) by market	3,098	3,254	2,299	2,293
Net sales (external) by point of origin	3,443	3,653	2,317	2,302
of which discontinuing operations	*977*	*1,096*	*420*	*444*
Change in	2.1%	+ 6.1%	1.5%	0.6%
Change in local currencies	1.2%	+ 6.1%	+ 16.7%	+ 4.9%
Interregional sales	963	951	518	532
Operating result (EBIT)	159	239	145	155
of which discontinuing operations	*(21)*	*5*	*(46)*	*3*
Return on sales	4.6%	6.5%	6.3%	6.7%
Gross cash flow*	421	414	334	247

1st Half

Regions million	Europe 1st Half 2003	Europe 1st Half 2004	North America 1st Half 2003	North America 1st Half 2004
Net sales (external) by market	6,450	6,569	4,416	4,388
Net sales (external) by point of origin	7,154	7,307	4,499	4,466
of which discontinuing operations	*1,950*	*2,036*	*888*	*930*
Change in	+ 2.7%	+ 2.1%	4.0%	0.7%
Change in local currencies	+ 3.4%	+ 2.3%	+ 14.0%	+ 9.1%
Interregional sales	2,070	2,053	982	968
Operating result (EBIT)	998	794	247	294
of which discontinuing operations	*4*	*78*	*(85)*	*(1)*
Return on sales	14.0%	10.9%	5.5%	6.6%
Gross cash flow*	1,356	1,073	649	420

* for definition see Bayer Group Key Data on page 2

2003 figures restated (for details see Notes, page 30 f)

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Asia/ Pacific		Latin America/ Africa/Middle East		Reconciliation		Bayer Group	
2nd Quarter		2nd Quarter		2nd Quarter		2nd Quarter	
2003	2004	2003	2004	2003	2004	2003	2004
1,116	1,240	743	796			7,256	7,583
965	1,064	531	564			7,256	7,583
142	*146*	*65*	*68*			*1,604*	*1,754*
10.6%	+ 10.3%	4.7%	+ 6.2%			3.3%	+ 4.5%
+ 4.8%	+ 11.9%	+ 19.0%	+ 14.6%			+ 7.3%	+ 7.1%
72	60	45	38	(1,598)	(1,581)		
94	120	135	61	(58)	(51)	475	524
8	*31*	*4*	*(8)*			*(55)*	*31*
9.7%	11.3%	25.4%	10.8%			6.5%	6.9%
90	111	111	66	(53)	(7)	903	831

Asia/ Pacific	Latin America/ Africa/Middle East	Reconciliation	Bayer Group

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Notes to the Interim Report for the Second Quarter of 2004

Accounting policies

Like the financial statements for 2003, the unaudited, consolidated financial statements for the second quarter of 2004 have been prepared according to the rules issued by the International Accounting Standards Board (IASB), London. Reference should be made as appropriate to the notes to the 2003 statements. IAS 34 (Interim Financial Reporting) has been applied in addition.

To enhance the transparency of our reporting, we have reclassified certain income and expense items related to funded pension obligations as of January 1, 2004. Through December 31, 2003, the balance of all income and expenses related to funded defined benefit plans was recognized in the operating result. Only the interest cost for unfunded pension obligations was included in the non-operating result under other non-operating expense. Effective January 1, 2004, all interest cost including that pertaining to funded pension obligations is reflected in the non-operating result. The same applies to the return on plan assets. This reporting change has the effect of increasing the operating result for fiscal 2003 by 84 million and reducing the non-operating result by the same amount. This effect is fairly evenly spread over the four quarters and impacts all segments.

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Also effective January 1, 2004 and likewise for reasons of transparency, we have altered our gross cash flow computation, which continues to reflect changes in pension provisions but no longer takes into account the changes in any other long-term provisions. The latter are now reflected only in the reconciliation of gross cash flow to net cash flow. The net cash flow remains unaffected. Direct comparison between changes in pension provisions and the corresponding balance sheet items is facilitated as a result.

Segment reporting

With effect from January 1, 2004, we have adjusted our segment reporting to reflect the realignment of the Bayer Group. Our Bayer MaterialScience subgroup is divided into the Materials and Systems segments. In light of our plans to list Lanxess on the stock market by the beginning of 2005 at the latest, this segment is reported under discontinuing operations.

Leverkusen, August 25, 2004

Bayer Aktiengesellschaft

The Board of Management

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Dates

First Half Results
Tuesday, August 31, 2004

London Investor Conference
Tuesday, August 31, 2004

Fall Financial News Conference
Thursday, November 25, 2004

Fall Investor Conference
Thursday/Friday, November 25/26, 2004

Spring Financial News Conference
Tuesday, March 15, 2005

Spring Investor Conference
Tuesday/Wednesday, March 15/16, 2005

Annual Stockholders Meeting 2005
Friday, April 29, 2005

Payment of Dividend
Monday, May 2, 2005

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If you would like to receive the Bayer Stockholders Newsletter in electronic rather than print form in future, please send an e-mail to the editor.

Forward-Looking Statements

This Stockholders Newsletter contains forward-looking statements. These statements use words like believes , assumes , expects or similar formulations. Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of our company and those either expressed or implied by these statements. These factors include, among other things:

Downturns in the business cycle of the industries in which we compete;

new regulations, or changes to existing regulations, that increase our operating costs or otherwise reduce our profitability;

increases in the price of our raw materials, especially if we are unable to pass these costs along to customers;

loss or reduction of patent protection for our products;

liabilities, especially those incurred as a result of environmental laws or product liability litigation;

fluctuation in international currency exchange rates as well as changes in the general economic climate; and

other factors identified in this Stockholders Newsletter.

These factors include those discussed in our public reports filed with the Frankfurt Stock Exchange and with the U.S. Securities and Exchange Commission (including our Form 20-F). In view of these uncertainties, we caution readers not to place undue reliance on these forward-looking statements. We assume no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.

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SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Bayer Aktiengesellschaft
(Registrant)

By: /s/ ppa. Alexander Rosar

Name: Alexander Rosar
Title: Head of Investor Relations

By: /s/ Armin Buchmeier

Name: Armin Buchmeier
Title: Senior Counsel

Date: August 31, 2004