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## Karolinska Development

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Karolinska Development AB (Nasdaq Stockholm: KDEV) is a Nordic life sciences investment company. The company focuses on identifying medical innovation and investing in the creation and growth of companies developing these assets into differentiated products that will make a difference to patients' lives and provide an attractive return on investment to its shareholders.

Karolinska Development has access to world-class medical innovations at leading universities and research institutes in the Nordic region, including the Karolinska Institutet. The Company aims to build companies around innovative products and technologies, supported by experienced management teams and advisers, and co-funded by specialist international life science investors, to provide the greatest chance of success.

Karolinska Development's portfolio now comprises ten companies focusing on the development of innovative treatment for life-threatening or serious debilitating diseases.

The Company is led by a team of investment professionals with strong investment backgrounds, experienced company builders and entrepreneurs, with access to a strong global network.

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## Financial Update

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- Karolinska Development's portfolio Total Fair Value decreased by SEK 75.8 million as it wrote down the entire value of its holding in ClanoTech AB ahead of KDev Investments disposal of all of its shares in the company to Rosetta Capital (July). With this reduction, the Total Fair Value of Karolinska Development's portfolio at the end of June was SEK 401.2 million. Net Fair Value of the portfolio at the end of June 2016 was SEK 143.7 million, a decrease of SEK 49.4 million compared to the end of March 2016.
- Entire shareholding of Akinion Pharmaceuticals AB (via KDev Investments) divested to Accelerated Innovation Europe AB in April. Following this transaction, neither Karolinska Development nor KDev Investments has any economic interest or exposure in Akinion.
- Net sales amounted to SEK 0.6 million in the second quarter (SEK 1.1 million in the second quarter 2015). Net loss amounted to SEK -75.8 million (SEK -654.6 million). Earnings per share amounted to SEK -1.4 (SEK -12.3).
- Karolinska Development's investments in portfolio companies during the second quarter amounted to SEK 9.5 million. Total investments in portfolio companies by other specialized life science investors during second quarter amounted to SEK 6.8 million.
- Cash, cash equivalents and short term liquidity investments decreased by SEK 19.2 million during the second quarter and amounted to SEK 268.4 million as of June 30, 2016.
- Operational costs in the second quarter amounted to SEK 6.6 million, a reduction of 46% compared to SEK 12.2 million in second quarter 2015 as a consequence of the organizational restructuring undertaken during 2015.

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## Karolinska Development – Q2 Highlights

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- Karolinska Development saw good progress during the second quarter through its portfolio companies making important announcements in relation to their product pipelines, and the strengthening of their board and management teams. Most of the companies in the portfolio are now funded to deliver key value-generating milestones over the coming years.

### Pipeline progress

- Lipidor AB announced an agreement on a Phase III clinical study and the joint commercialization of a topical psoriasis product with Cadila Pharmaceuticals (June 2016).
- Aprea AB presented promising efficacy and safety data from the Phase Ib part of its PiSARRO trial of APR-246 in ovarian cancer patients at the American Society of Clinical Oncology (ASCO) meeting (June 2016).
- Dilaforette AB presented a poster highlighting the mechanism of action of sevuparin in treating sickle-cell disease at the European Hematology Association Congress (June 2016).
- Promimic AB's partner S.I.N. generated sales of HA<sup>nano</sup> products in Brazil which exceeded expectations for H1 2016. Promimic published positive results from an *in vivo* proof-of-concept study, in the International Journal of Nanomedicine (April 2016), demonstrating the improved bone-healing properties of medical implants coated with HA<sup>nano</sup> Surface compared with uncoated implants.

### Board and Management Teams

- Aprea AB named Christian S. Schade as its President and Chief Executive Officer (June 2016).
- OssDesign AB appointed Simon Cartmell as Chairman of the Board (April 2016).

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## Post Period Events

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- KDev Investments divested its entire shareholding in ClanoTech AB to Rosetta Capital (July 2016). Karolinska Development retains an economic interest in ClanoTech through an earn-out agreement, the proceeds of which will be retained entirely by Karolinska Development.
- Umecrine Cognition AB announced the appointment of Dr. Bruce Scharschmidt as a new member of its board of directors and Senior Development Adviser (July 2016).

### Jim Van heusden, CEO of Karolinska Development, comments:

"In the first half of 2016 Karolinska Development achieved three key developments together with our portfolio companies: we secured additional financing; ensured continued progress of the development pipeline; and strengthened board and management teams.

"A key highlight so far in 2016 has been Aprea's SEK 437 million financing in March, the largest ever completed by a Karolinska Development portfolio company and more broadly by any private life science company in Sweden in more than a decade. Dilaforette and Promimic also secured non-dilutive financing through new partnerships. As a consequence of these activities, the majority of our portfolio is now funded to deliver key value-generating milestones over the coming years.

"We are also encouraged by the progress made by our portfolio companies in advancing their development pipelines, and presenting and publishing their latest results.

"In addition, we attracted entrepreneurial leaders to the boards and senior management team of our companies: Simon Cartmell joined the board of OssDsign, Christian Schade was appointed CEO of Aprea and Bruce Scharschmidt joined the board of Umecrine Cognition;; their quality and experience is crucial to ensuring the success of our portfolio.

"Karolinska Development's investment strategy is designed to deliver value from the most promising life science opportunities across the Nordic region. I look forward to providing further updates as we execute on our strategy."

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## Chief Executive's Report

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### Karolinska Development

Karolinska Development continues to make steady progress in 2016 focusing on the execution of its strategy as a Nordic investment company to build future value for patients and shareholders through two key areas: its existing portfolio and new investments.

During Q2 2016, Karolinska Development saw its portfolio companies make important announcements in relation to their product pipelines, and the strengthening of their board and management teams. From a financial standpoint, a divestment of ClanoTech was agreed, with Karolinska Development retaining an economic interest through an earn-out agreement, while the focused portfolio is funded to deliver key value-generating milestones over the coming years.

### A portfolio of exciting prospects

Karolinska Development's portfolio now comprises ten companies. These companies are developing highly differentiated and commercially attractive products that have the potential to deliver both compelling clinical and health economic benefits. The Company's investment strategy aims to capitalize on the best opportunities based on world-class medical innovation across the entire Nordic region, including more mature investments, where returns may be realized more quickly than from early stage companies.

A key objective for Karolinska Development is to ensure that its portfolio companies are financed to their next value inflection points by proactively syndicating deals with experienced international life sciences investors. Recent examples are the SEK 437 million financing of Aprea, which involved a syndicate of leading life sciences investors from the US, Canada and Sweden; and Umecrine Cognition AB's private financing round, in which Fort Knox Förvaring AB, Partnerinvest Övre Norrland AB and Norrlandsfonden participated as new investors alongside founder investor Karolinska Development.

Additional non-dilutive financing is also sought, and recent examples include Dilaforette AB, which will receive up to \$1.2 million from the Arabian Gulf University in Bahrain to support its Phase 2 proof of concept trial of sevuparin in patients with sickle cell disease (SCD); and Promimic AB, which will receive investment into the establishment of a production line for its HA<sup>nano</sup> Surface process from its new partner Danco Anodizing.

### Portfolio News: pipeline progress

In June, Lipidor AB entered into a collaboration agreement with Cadila Pharmaceuticals, one of the largest pharmaceutical manufacturing groups in India, to commercialize a sprayable anti-psoriatic product consisting of the generic Vitamin D analogue, calcipotriol, formulated with Lipidor's patented lipid-based drug delivery technology, AKVANO®. The product targets patients with mild to moderate psoriasis. Under the collaboration agreement, Cadila Pharmaceuticals will conduct a Phase III clinical trial program in India, starting in 2016.

Aprea AB presented efficacy and safety data from the Phase Ib part of its PiSARRO trial of APR-246 in ovarian cancer patients at the American Society of Clinical Oncology (ASCO) meeting in June. The data, generated in collaboration with European Network for Translational Research in Ovarian Cancer

(EUTROC), showed that APR-246 can be combined with standard chemotherapy at relevant doses, with minimal additional toxicity, allowing the highest of the tested doses to be selected as the dose for continuing the trial in a randomized Phase II trial. A high percentage of patients whose cancer responded to this treatment regime was seen (overall response rate was 18/24, 75%).

Also in June, Dilaforette AB presented a poster highlighting the mechanism of action of sevuparin in treating SCD at the European Hematology Association congress. The poster was entitled '*Sevuparin Demonstrates Binding to Key Adhesion Receptors Involved in Pathogenesis of Sickle-Cell Disease*'. Dilaforette is currently enrolling SCD patients into a multi-centre, international, randomised Phase II study in Europe and the Middle East. Patient enrolment into this study is currently progressing more slowly than originally projected, and results are now expected in H1 2017.

Promimic AB announced the results of an *in vivo* proof-of-concept study on polyether ether ketone (PEEK) medical implants coated with HA<sup>nano</sup> Surface in the *International Journal of Nanomedicine* in April. The results of this study show significant improvement of bone-to-implant contact and bone healing for the HA<sup>nano</sup> coated implants compared to uncoated controls at three weeks and 12 weeks follow-up.

### Portfolio news: board and management team

Aprea AB announced the appointment of Christian S. Schade as its President and Chief Executive Officer in June 2016. Mr. Schade, who will be based in Boston, brings more than 30 years of private and public pharmaceutical and biotechnology industry experience, as well as broad corporate finance expertise from his tenure in the investment banking industry. Prior to joining Aprea, he was CEO of Novira Therapeutics (acquired by Johnson & Johnson in 2015), and held senior executive positions at Omthera (acquired by AstraZeneca), Medarex (acquired by Bristol-Myers Squib) and Merrill Lynch.

In April, OssDsign AB appointed Simon Cartmell as Chairman of the Board. The appointment strengthens the organization ahead of the US launch of its novel regenerative facial and cranial implants, expected in 2017. Mr. Cartmell is an experienced entrepreneur in the life sciences industry and a Non-Executive Director / Chairman of a number of European medical device companies. He was previously the CEO and architect behind the commercial success of Apatech, a British medtech firm that developed ACTIFUSE, a novel bone void filler used to treat bone defects resulting from orthopaedic and spine surgery or traumatic injury. Apatech was acquired by Baxter International in March 2010 for USD 330 million.

### Significant events after the interim period

In July, Karolinska Development announced that KDev Investments divested its entire shareholding in ClanoTech AB to Rosetta Capital. KDev Investments is an investment fund jointly owned by Karolinska Development and Rosetta Capital. The divestment decision was made following a detailed evaluation of the company and its future funding requirements, concluding that the best option both for Karolinska Development and for ClanoTech was to transfer KDev Investments' holding to Rosetta Capital, which will continue to fund the company towards future milestones. Karolinska Development will provide no further financing to the company, but retains an economic interest in ClanoTech through an earn-out agreement, which has the potential to generate future value. The future proceeds will be retained entirely by Karolinska Development.

Also in July, Umeocrine Cognition AB announced the appointment of Dr. Bruce Scharschmidt as a new member of its board of directors and Senior Development Adviser. Dr. Scharschmidt most recently served

as Senior Vice President and Chief Medical & Development Officer at Hyperion Therapeutics (acquired by Horizon Pharma Inc. in 2015), where he was responsible for the development of glycerol phenylbutyrate (GPB, RAVICTI®), approved for the treatment of urea cycle disorders in the US, Europe and Canada, and for the successful Phase II trial of GPB for hepatic encephalopathy, the indication being focused on by Umeocrine Cognition. Previously, he held senior positions at Novartis, Chiron and the University of California, San Francisco (UCSF), where he was Professor of Medicine and Chief of Gastroenterology, helping launch the UCSF liver transplant program.

## Outlook

Karolinska Development has established a strong foundation and is now making good progress on executing its strategy. The firm has a portfolio of exciting prospects that are funded to deliver key value-generating milestones over the coming years, an investment strategy designed to generate further value from the most promising life science opportunities across the Nordic region, and key people in place with the necessary international experience and capabilities to drive its strategy forward.



**Project**

APR-246

**Primary indication**

Ovarian cancer

**Development Phase**

Phase I/II

**Holding in company**

23%\*

**Other investors**

Versant Ventures (US),  
5AM Ventures (US),  
HealthCap (Sweden)  
Sectoral Asset  
Management (Canada),  
KCIF Co-Investment Fund KB

**Origin**

Karolinska Institutet

**More information**

[aprea.com](http://aprea.com)

*\* Includes indirect holdings through  
KDev Investments and KCIF  
Co-Investment Fund*

## Aprea AB



### A unique approach to treating broad range of cancers

Aprea is a Swedish biotech company focusing on discovery and development of novel anticancer compounds targeting the tumor suppressor protein p53. De-activation of p53 results in uncontrolled growth of the cell leading to cancer. Mutations of the p53 gene occur in around 50% of tumors and restoring its normal function represents a very attractive approach for treating a broad range of cancers including those resistant to cancer chemotherapeutics.

Aprea's exciting lead drug candidate APR-246, a first-in-class anti-cancer compound that targets and reactivates the tumor suppressor protein p53, inducing programmed cell death in many human cancer cells.

APR-246 is currently undergoing a Phase Ib/II clinical study (the PiSARRO study) investigating its safety and efficacy in combination with chemotherapy in second-line treatment of patients with high grade serous ovarian cancer. Aprea presented efficacy and safety data from the Phase Ib part of PiSARRO at the American Society of Clinical Oncology (ASCO) meeting in June. The data showed that APR-246 can be combined with standard chemotherapy at relevant doses, with minimal additional toxicity, allowing the highest of the tested doses to be selected as the dose for continuing the trial in a randomized Phase II trial. A high percentage of patients whose cancer responded to this treatment regime was also seen (overall response rate was 18/24, 75%).

PiSARRO is a two-part randomized, controlled study investigating the safety and antitumor activity of APR-246 administered in combination with carboplatin and pegylated doxorubicin, compared with carboplatin and pegylated doxorubicin alone. The primary endpoint of the Phase II part of the study will be Progression Free Survival (PFS).

#### The market

The market potential in ovarian cancer is substantial. There are around 225,000 women living with ovarian cancer in the seven major markets, with 67,000 new patients diagnosed each year. Of those diagnosed annually, approximately 20,000 have stage III-IV, recurrent disease with mutated p53. This is the primary target population for APR-246. The overall ovarian cancer pharmaceutical market is expected by analysts to grow by more than 13% annually to 2020, reaching a total market value of USD 2.3 billion.

#### Recent progress

- Christian S. Schade appointed as President and Chief Executive Officer (June 2016).
- Promising efficacy and safety data from Phase Ib part of PiSARRO were presented at ASCO (June 2016).
- SEK 437 million raised from syndicate of leading international life science investors (March 2016).

#### Expected milestones

- Final results from the Phase Ib part of the Phase Ib/II study in ovarian cancer (H2 2016).
- Initiate Phase II proof-of-concept part of the Phase Ib/II study in ovarian cancer (H2 2016).



**Project**

Sevuparin

**Primary indication**

Sickle cell disease (SCD)

**Development Phase**

Phase II

**Holding in company**

64%\*

**Other investors**

The Foundation for Baltic and East European Studies, Praktikerinvest

**Origin**

Karolinska Institutet, Uppsala University

**More information**

 [Dilaforette.se](http://Dilaforette.se)

*\* Includes indirect holdings through KDev Investments*

## Dilaforette AB



### Targeting relief for sickle cell disease patients

Dilaforette, a Swedish drug development company, is developing sevuparin, an innovative, disease-modifying drug which has potential to become the best-in-class treatment for sickle cell disease (SCD).

Sevuparin's anti-adhesive mechanism means it has the potential to prevent and resolve the microvascular obstructions experienced by SCD patients. These obstructions cause the severe pain experienced by patients during Vaso-Occlusive Crises (VOCs) and result in high morbidity through organ damage as well as the risk of premature death.

Preclinical data show that sevuparin can have rapid and clinically relevant effects on the microvascular obstructions. In October 2015, Dilaforette announced that the first patient had been enrolled in a multi-center, double-blind, placebo-controlled Phase II study of sevuparin in hospitalized SCD patients experiencing VOC. Results from this study are expected in H1 2017.

The trial is targeting 70 evaluable patients who will have been randomized to receive either an intravenous infusion of sevuparin or placebo on top of standard pain medication. This proof-of-concept study is designed to demonstrate reduced time to resolution of VOC, defined as freedom from parenteral opioid use and readiness for discharge from hospital. Secondary end-points include pharmacokinetics and safety. The study is taking place in Europe and the Middle East under a co-development deal with Ergomed, which will co-invest a proportion of its revenues from the clinical and regulatory activities of this trial in return for an equity stake in Dilaforette.

Dilaforette's aim is to develop a presentation of sevuparin that could be self-administered by SCD patients in a timely manner to prevent VOCs developing.

#### The market

SCD is an orphan disease with approximately 100,000 patients in the US and 35,000 patients in Europe. In addition to this, there is a large patient pool in the Middle East, India, South America and Africa. The average number of VOCs per patient seeking hospital care is in the order of one VOC per year. The commercial impact of a SCD treatment that reduces hospital stay and the use of opioid analgesics is expected to be substantial. A label expansion to include also the preventive treatment would expand the market size significantly.

#### Recent progress

- A poster strengthening the mechanism of action of sevuparin in treating SCD was presented at the European Hematology Association congress in Copenhagen (June 2016).
- Clinical collaboration agreement with Arabian Gulf University (Bahrain) for Phase II clinical development of sevuparin for SCD (February 2016).

#### Expected milestones

- Phase II proof-of-concept results expected in H1 2017.



**Project**

GR-3027-GABA modulator

**Primary indication**

Hepatic encephalopathy

**Development Phase**

Phase I

**Holding in company**

59%\*

**Other investors**


Norrlandsfonden

Fort Knox förvaring AB

Partnerinvest

**Origin**

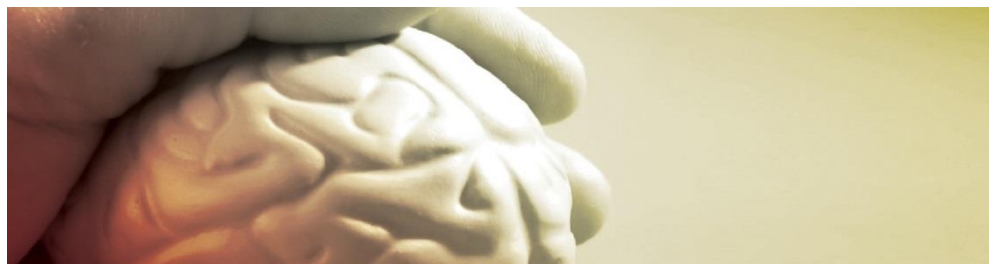
Umeå University

**More information**

[umecrine.com](http://umecrine.com)


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## Umechrine Cognition AB

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### Unique approach to hepatic encephalopathy treatment

Umechrine cognition, a Swedish drug development company, is developing a drug against Hepatic encephalopathy (HE), which is a serious neuropsychiatric and neurocognitive complication in acute and chronic liver disease. The disorder has detrimental effects on health related quality of life as a consequence of diverse and debilitating symptoms. An increase in the inhibitory GABA (a neurotransmitter) system in the CNS is a plausible main driver for the clinical signs and symptoms.

Neuroactive steroids are key drivers of this increased GABA signaling, causing cognitive impairment. This makes neurosteroid-antagonists, as developed by Umechrine Cognition, a credible therapeutic class to explore for novel treatments in HE.

Umechrine cognition's exciting drug candidate GR-3027 is a first-in-class drug to treat acute life-threatening HE and long-term maintenance in minimal HE caused by endogenous GABA-steroids.

GR-3027 is currently undergoing a Phase I clinical study investigating its safety and efficacy in healthy volunteers.

### The market

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HE is a severe disorder with a large unmet need. In total, liver cirrhosis affects up to 1% of US and EU populations. Between 125,000 and 200,000 patients with cirrhosis in the US are hospitalized due to complications of HE. Once HE develops, mortality reaches 22-35% after five years. HE is also associated with large societal and individual costs. The total cost for hospitalizations with HE in the US is estimated to around USD 2 billion.

### Recent progress

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- SEK 12.6 million raised from syndicate of local investors (H1 2016).
- Start of Phase I clinical study. (H1 2016).
- Bruce Scharschmidt, a key opinion leader in the field of HE, joins the Board of Directors (July 2016).

### Expected milestones

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- Final results from the Phase I clinical study (H2 2016).
- Initiate Phase II proof-of-concept clinical study (H1 2017).

**Project**

Craniomosaic, Cranioplug

**Primary indication**

Cranio implants

**Development Phase**

Marketed

**Holding in company**

27%\*

**Other investors**

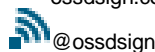
SEB Venture Capital  
Fouriertransform

**Origin**

Karolinska University Hospital,  
Uppsala University

**More information**

ossdesign.com



@ossdesign

\* Includes indirect holdings through  
KCIF Co-Investment Fund

## OssDsign AB



### Commercializing the best craniofacial implants

OssDsign is a pioneer in 'Orphan Medtech', an evolving segment within the medtech market.

OssDsign develops and commercializes novel cranial and facial implants, based on its proprietary technology platform, which possess a combination of biological, mechanical and aesthetic features that are combined for clinical use.

The use of traditional cranio-facial implant materials results in high complication rates and carries the lifetime risk of skin penetration and infection. OSSDSIGN® Cranial and OSSDSIGN® Facial are implants custom-made for the individual patient.

What makes OssDsign's products different are their biological features, which result in better blood flow, improved healing of the soft tissues covering the implants as well as improved bone formation over time. Enhanced healing means a better implant solution for patients and cost savings for hospitals.

The technology platform combines a proprietary bioceramic formulation with reinforcing titanium skeleton based on state-of-the-art computer-aided design, 3D printing and moulding techniques.

#### The market

The market for material products in orthopaedics was estimated at EUR 1.5 billion in 2013. The market for OssDsign's lead product in cranioplasty alone is expected to amount to approximately EUR 100 million in 2017. OssDsign pursues a focused business strategy on a well-defined patient population. The advantages are that the targeted procedures are carried out in a limited number of easily identifiable hospitals around the world. The indications are relatively price insensitive and on many markets easy to access from a regulatory perspective. OSSDSIGN® Cranial and OSSDSIGN® Facial are now commercially available in Germany, the UK and the Nordic countries and under regulatory preparation and review in key markets outside of Europe, such as the US.

#### Recent progress

- Simon Cartmell appointed Chairman of the Board (April 2016).
- CE mark received for Cranioplug, an innovative device for cranial fixation (January 2016).

#### Expected milestones

- Second wave of launch of OSSDSIGN® Cranial and OSSDSIGN® Facial on new EU markets and selected markets outside of Europe.
- Submission of regulatory file for OSSDSIGN® Cranial and Cranioplug in the US.



**Project**

HA<sup>nano</sup> Surface

**Primary indication**

Implant surface

**Development Phase**

Marketed

**Holding in company**

34%\*


**Other investors**

ALMI Invest  
K-Svets Venture

**Origin**

Chalmers University of  
Technology

**More information**

 Promimic.com

\* Includes indirect holdings through  
KDev Investments

## Promimic AB



### Coatings to enhance the properties of orthopedic implants

Promimic is a biomaterials company that develops and markets a unique coating for implants called HA<sup>nano</sup> Surface, which increases the anchoring strength of implants.

The HA<sup>nano</sup> Surface is nanometer thin, which helps preserve the micro-structure of the implant and reduces the risk of cracks in the coating. Furthermore, the coating improves the hydrophilicity of the implant, which increases the possibility for bone cells to attach to the surface. The HA<sup>nano</sup> Surface has been evaluated in both *in vitro* and *in vivo* studies, which have shown that it can reduce healing times. The coating process is easy to implement in the industrial scale production of implants.

Promimic entered into a strategic development and licensing agreement with Sistema de Implante Nacional (S.I.N), a leading provider of dental implants in Brazil, in 2015. The collaboration includes an extensive development program of both pre-clinical and clinical studies. In January 2016, Promimic announced that S.I.N had launched the first product using Promimic's technology.

Promimic also signed a strategic agreement with Amendia Inc. (US) in 2015 that will allow Amendia to develop HA<sup>nano</sup> Surface technology for use with its patient-focused spinal implants.

### The market

The implant industry is a large, high-growth market which delivers high profit margins. The competition amongst implant manufacturers is fierce and each market segment is dominated by 4-8 global companies. The strategies of many of these companies rely on in-licensing new technologies in order to differentiate their products and strengthen their market position. Promimic has a business model designed to meet these needs. It is centered on out-licensing its HA<sup>nano</sup> Surface technology to leading implant manufacturers so that they can incorporate it into their products.

### Recent progress

- Promimic's partner S.I.N. sales of HA<sup>nano</sup> over target in H1 2016 in Brasil
- Promimic and Danco Anodizing signed a license agreement where Danco will invest in a production line for the HA<sup>nano</sup> Surface process. Danco will be the preferred process partner for Promimic for the US and China medical implant market (March 2016).
- Improved bone-healing properties of medical implants coated with HA<sup>nano</sup> Surface compared with uncoated implants reported in the *International Journal of Nanomedicine* (April 2016).

### Expected milestones

- Further license agreements with major manufacturers.

## Financial Development – Investment Entity

The Investment Entity refers to the Parent Company (Karolinska Development AB) and all subsidiaries, joint ventures, associated companies and other long-term securities holdings which are all recognized at fair value. Amounts in parenthesis refer to corresponding period in the prior year unless otherwise stated.

### Financial development in summary

SEKm	2016 Apr-Jun	2015 Apr-Jun	2016 Jan-Jun	2015 Jan-Jun	2015 Full-year
<b>Income statement information</b>					
Result of change in Net Fair Value in portfolio companies	-58.9	-635.1	-141.1	-863.7	-976.5
Net profit/loss	-75.8	-654.6	-175.9	-905.6	-1,054.7
<b>Balance sheet information</b>					
Cash, cash equivalents and short-term investments			268.4	383.4	297.2
<b>Share information</b>					
Earnings per share, weighted average, before and after dilution (SEK)	-1.4	-12.3	-3.3	-17.0	-19.8
Net asset value per share (SEK) (Note 1)			2.9	7.7	4.7
Equity per share (SEK) (Note 1)			1.3	7.5	4.7
Share price, last trading day in the reporting period (SEK)			7.3	10.7	13.0
<b>Portfolio information</b>					
Investments in portfolio companies	9.5	14.9	17.1	64.9	130.8
Of which investments not affecting cash flow	0.4	0.3	0.8	0.3	6.7
Fair value of portfolio holdings			143.7	319.9	267.7

### Investments in portfolio companies second quarter 2016

Investments in portfolio companies by Karolinska Development during April – June 2016 amounted to SEK 9.5 million. External specialized life science investors invested SEK 6.8 million in the portfolio companies. Karolinska Development's investments amounted to:

- Dilaforette Holding AB, SEK 9.1 million
- Interest on loans to portfolio companies etc., SEK 0.4 million

### Value development second quarter 2016

During the second quarter 2016 the Investment Entity's operating loss amounted to SEK -64.9 million (SEK -646.2 million), of which the result of changes in Net Fair Value in portfolio investments amounted to SEK -58.9 million (SEK -635.1 million). The result of changes in Net Fair Value in portfolio investments is mainly due to Net Fair Value in ClanoTech AB being reduced to SEK 0.0.

The result of changes in Net Fair Value of portfolio companies amounts to SEK 58.9 million:

- ClanoTech AB, SEK -84.7 million
- Interest on loan to portfolio companies and other adjustments, SEK -0.6 million
- Reduced potential distribution to Rosetta Capital, SEK 26.4 million

With SEK 9.5 million invested in portfolio companies during the second quarter 2016 changes in Net Fair Value amount to SEK -49.4 million.

## Results second quarter 2016

Operational costs in the second quarter amounted to SEK 6.6 million, a reduction of 46% compared to SEK 12.2 million in second quarter 2015 as a consequence of the organizational restructuring undertaken during 2015.

The Investment Entity's loss before tax during the second quarter 2016 amounted to SEK -75.8 million (SEK -654.6 million). The main drivers behind the loss were SEK 6.6 million in operational costs, SEK 58.9 in result of changes in Net Fair Value and SEK 10.9 million in financial costs related to the convertible bond.

Revenue in the second quarter amounted to SEK 0.6 and covers services provided to portfolio companies and KDev Investments.

## Financial position (comparative figures refer to 31 December 2015)

The Investment Entity's equity to total assets ratio was 28% (40%) on 30 June 2016 and equity amounted to SEK 70.7 million (SEK 247.9 million). Cash, cash equivalents and short-term investments in the Investment Entity amounted to SEK 268.4 million (SEK 297.2 million), of which SEK 34.0 million is provisionally allocated for anticipated follow-on investments in the KDev Investments portfolio. Total assets amounted to SEK 454.1 million (SEK 614.5 million).

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## Financial Development – Parent Company

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*The Parent Company refers to Karolinska Development AB.*

During the period January - June 2016, the Parent Company's operating loss amounted to SEK -138.8 million (SEK -707.5 million), a change of SEK 568.7 million compared with the same period in 2015. Impairment losses during the same period amounted to SEK -124.9 million (SEK -683.2 million) and were recognized on the holdings in KDev Investments AB SEK -124.2 million, KCIF Co-Investment Fund KB SEK 0.5 million, share of result in KCIF Co-Investment Fund KB SEK -1.3 million. The impairment losses are mainly due to write offs on shares in KDev Investment AB's portfolio companies Akinion Pharmaceutical AB and ClanoTech AB.

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## Information on Risks and Uncertainties

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### Parent Company and Investment Entity

#### Valuation risks

Companies active in pharmaceutical development and medical technology at an early phase are, by their very nature, difficult to value, as lead times are very long and development risks are high. Due to the uncertainty in these assessments and the subjectivity in the inputs, the estimated value of the portfolio may deviate substantially from future generated value. This is largely due to sensitivities in the valuation calculations to movement of expected milestone or exit dates, costs of trials and similar assumptions, which are not necessarily accounted for in arriving at an actual deal value in negotiations with partners. Financing strategy decisions can have an effect on valuations.

#### Project development risks

Risks and uncertainties are primarily associated with investments in portfolio companies and the development of projects in these companies. The operations of the portfolio companies consist of the development of early stage pharmaceutical projects. By their very nature such operations are distinguished by very high risk and uncertainty in terms of results.

#### Financial risks

Financial risks consist of investments in the form of equity and debt instruments in portfolio companies as well as risks in the management of liquid assets.

#### Future financing needs

Karolinska Development invests in companies deemed to generate considerable returns. Development of the portfolio companies' research projects will require capital contributions by their investors in order to capitalize on the value potential. The portfolio companies have no guarantees that required capital will be obtained to finance their projects on favorable terms, or that such capital may be obtained at all.

Karolinska Development maintains a strategy to invest in the portfolio companies in syndicate with other investors. If portfolio companies are not successful in attracting other investors, Karolinska Development may choose to invest alone. If Karolinska Development chooses not to invest in the portfolio companies, investments may be made solely by other investors, which may have a negative impact on the valuations of portfolio companies.

Priorities must be made to optimize returns. Portfolio companies may fail to achieve milestones or meet development milestones according to plan. In such cases, investors may decide to discontinue investing in a project. If so, the portfolio companies may have to limit their operations. Karolinska Development's shareholdings may also be diluted by other investors, and other investors may refrain from co-investing on equal terms.

Investments in existing portfolio companies during 2016 are expected to decrease compared to the previous year as a consequence of several companies being fully financed until next value inflection point and due to Karolinska Development's strategy of investing in syndication with other investors. Several companies are expected to enter license agreements with partners, receive non-dilutive grants such as EU contributions, and third party investments are expected to increase.

Investments in new portfolio companies are expected to increase during 2016.

Other than the above, no new risk areas have been identified since 31 December 2015. For a detailed description of risks and uncertainties, see the annual report 2015.

The Board of Directors and the CEO hereby certify that this interim report gives a true and fair view of the operations, financial position and results of operations of the Parent Company and the Investment Entity and describes the material risks and uncertainties faced by the company.

This report has not been reviewed by the Company's auditors.

Solna, 31 August 2016

Bo Jesper Hansen  
Chairman

Tse Ping

Niclas Adler

Vlad Artamonov

Khalid Islam

Henriette Richter

Carl Johan Sundberg

Hans Wigzell

Jim Van heusden  
CEO

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## Dates for Publication of Financial Information

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Interim report January-September 2016

23 November 2016

Karolinska Development is required by law to publish the information in this interim report. The information was published on 31 August 2016 at 08:00 AM (CET).

This interim report, together with additional information, is available on Karolinska Development's website: [www.karolinskadevelopment.com](http://www.karolinskadevelopment.com)

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**See also [www.karolinskadevelopment.com](http://www.karolinskadevelopment.com)**

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Tomtebodavägen 23A  
SE-171 65 Solna, Sweden

Note: This report is a translation of the Swedish interim report. In case of any discrepancies, the Swedish version shall prevail.

## Financial Statements

### Condensed income statement for the Investment Entity

SEK 000	Note	2016 Apr-Jun	2015 Apr-Jun	2016 Jan-Jun	2015 Jan-Jun	2015 Full-year
Revenue		607	1,118	1,215	2,110	2,942
Other expenses		-3,995	-5,750	-7,425	-10,249	-15,363
Personnel costs		-2,613	-6,421	-7,555	-16,079	-31,167
Depreciation of tangible non-current assets		-53	-53	-106	-106	-212
Change in fair value of shares in portfolio companies	2	-58,894	-635,096	-141,146	-863,675	-976,488
Result from sale of shares in portfolio companies		-	-	-	-	-
<b>Operating profit/loss</b>		<b>-64,948</b>	<b>-646,202</b>	<b>-155,017</b>	<b>-887,999</b>	<b>-1,020,288</b>
Financial net		-10,893	-8,437	-20,923	-17,560	-34,385
<b>Profit/loss before tax</b>		<b>-75,841</b>	<b>-654,639</b>	<b>-175,940</b>	<b>-905,559</b>	<b>-1,054,673</b>
Taxes		-	-	-	-	-
<b>NET PROFIT/LOSS FOR THE PERIOD</b>		<b>-75,841</b>	<b>-654,639</b>	<b>-175,940</b>	<b>-905,559</b>	<b>-1,054,673</b>

### Earnings per share for the Investment Entity

SEK	Note	2016 Apr-Jun	2015 Apr-Jun	2016 Jan-Jun	2015 Jan-Jun	2015 Full-year
Earnings per share, weighted average, before and after dilution		-1.43	-12.32	-3.31	-17.04	-19.84
Number of shares, weighted average		53,151,328	53,140,273	53,151,328	53,140,273	53,151,328

### Condensed statement of comprehensive income for the Investment Entity

SEK 000	Note	2016 Apr-Jun	2015 Apr-Jun	2016 Jan-Jun	2015 Jan-Jun	2015 Full-year
Net/profit loss for the period		-75,841	-654,639	-175,940	-905,559	-1,054,673
<b>Total comprehensive income/loss for the period</b>		<b>-75,841</b>	<b>-654,639</b>	<b>-175,940</b>	<b>-905,559</b>	<b>-1,054,673</b>



Condensed balance sheet for the Investment Entity

SEK 000	Note	30 Jun 2016	30 Jun 2015	31 Dec 2015
<b>ASSETS</b>				
<b>Non-current assets</b>				
Tangible non-current assets		-	211	106
Shares in portfolio companies at fair value through profit or loss	2	143,690	319,903	267,651
Loans receivable from portfolio companies		951	-	914
Other financial assets		38,113	38,113	38,113
<b>Total non-current assets</b>		<b>182,754</b>	<b>358,227</b>	<b>306,784</b>
<b>Current assets</b>				
Receivables from portfolio companies		1,287	1,339	3,549
Other current receivables		1,025	2,688	5,995
Prepaid expenses and accrued income		612	2,463	897
Short-term investments, at fair value through profit or loss		257,761	278,233	277,646
Cash and cash equivalents		10,613	105,135	19,589
<b>Total current assets</b>		<b>271,298</b>	<b>389,858</b>	<b>307,676</b>
<b>TOTAL ASSETS</b>		<b>454,052</b>	<b>748,085</b>	<b>614,460</b>
<b>EQUITY AND LIABILITIES</b>				
<b>Equity</b>				
Share capital		26,725	26,692	26,725
Share premium		1,874,236	1,874,236	1,874,236
Retained earnings		-	-	-
Retained earnings		1,830,301	1,503,998	1,653,080
<b>Total equity</b>		<b>70,660</b>	<b>396,930</b>	<b>247,881</b>
<b>Long-term liabilities</b>				
Convertible loan	3	371,821	329,183	349,205
Other financial liabilities		4,798	5,439	5,439
<b>Total long-term liabilities</b>		<b>376,619</b>	<b>334,622</b>	<b>354,644</b>
<b>Current liabilities</b>				
Accounts payable		974	1,441	1,444
Liabilities to portfolio companies		513	691	513
Other current liabilities		552	1,094	4,425
Accrued expenses and prepaid income		4,734	13,307	5,553
<b>Total current liabilities</b>		<b>6,773</b>	<b>16,533</b>	<b>11,935</b>
<b>Total liabilities</b>		<b>383,392</b>	<b>351,155</b>	<b>366,579</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>454,052</b>	<b>748,085</b>	<b>614,460</b>

Condensed statement of changes in the Investment Entity's equity

SEK 000	Equity attributable to Investment Entity's shareholders			Total
	Share capital	Share premium	Retained earnings	
<b>Opening equity at 1 Jan 2016</b>	<b>26.725</b>	<b>1.874.236</b>	<b>-1.653.080</b>	<b>247.881</b>
Net profit/loss for the period			-175.940	-175.940
<b>Total comprehensive income for the period</b>			<b>-175.940</b>	<b>-175.940</b>
Effect of incentive programs			-1.281	-1.281
<b>Closing equity at 30 Jun 2016</b>	<b>26.725</b>	<b>1.874.236</b>	<b>-1.830.301</b>	<b>70.660</b>

<b>Opening equity at 1 Jan 2015</b>	<b>26.692</b>	<b>1.828.844</b>	<b>-598.724</b>	<b>1.256.812</b>
Net profit/loss for the period			-905.559	-905.559
<b>Total comprehensive income for the period</b>			<b>-905.559</b>	<b>-905.559</b>
Convertible loan - equity part		49528		<b>49.528</b>
Issue costs		-4136		<b>-4.136</b>
Effect of incentive programs			285	285
<b>Closing equity at 30 Jun 2015</b>	<b>26.692</b>	<b>1.874.236</b>	<b>-1.503.998</b>	<b>396.930</b>

<b>Opening equity at 1 Jan 2015</b>	<b>26.692</b>	<b>1.828.844</b>	<b>-598.724</b>	<b>1.256.812</b>
Net profit/loss for the year			-1.054.673	-1.054.673
<b>Total comprehensive income for the year</b>			<b>-1.054.673</b>	<b>-1.054.673</b>
Convertible loan - equity part		49.528		49.528
Issue costs		-4.136		-4.136
Effect of incentive programs			317	317
Share issue	33			33
<b>Closing equity at 31 Dec 2015</b>	<b>26.725</b>	<b>1.874.236</b>	<b>-1.653.080</b>	<b>247.881</b>

Condensed statement of cash flows for the Investment Entity

SEK 000	Note	2016 Jan-Jun	2015 Jan-Jun
<b>Operating activities</b>			
Operating profit/loss		155,017	887,999
<b>Adjustments for items not affecting cash flow</b>			
Depreciation		106	106
Change in fair value	2	141,146	863,675
Other items		-1,683	714
Proceeds from short-term investments		181	411
Interest paid/received		-1	134
<b>Cash flow from operating activities before changes in working capital and operating investments</b>		<b>-15,268</b>	<b>-22,959</b>
<b>Cash flow from changes in working capital</b>			
Increase (-)/Decrease (+) in operating receivables		6,263	10,792
Increase (+)/Decrease (-) in operating liabilities		-5,162	-13,748
<b>Operating investments</b>			
Acquisitions of shares in portfolio companies		-16,219	-64,575
Proceeds from sale of short-term investments <sup>1</sup>		21,410	-
Investments in short-term investments <sup>1</sup>		-	148,954
<b>Cash flow from operating activities</b>		<b>-8,976</b>	<b>239,444</b>
<b>Financing activities</b>			
Convertible debentures issue		-	364,001
Issue costs		-	-32,307
<b>Cash flow from financing activities</b>		<b>0</b>	<b>331,694</b>
<b>Cash flow for the period</b>		<b>-8,976</b>	<b>92,250</b>
Cash and cash equivalents at the beginning of the year		19,589	12,885
<b>CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD</b>		<b>10,613</b>	<b>105,135</b>

**Supplemental disclosure<sup>1</sup>**

<b>CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD</b>	<b>10,613</b>	<b>105,135</b>
Short-term investments, market value at closing date	257,761	278,233
<b>CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS AT THE END OF THE PERIOD</b>	<b>268,374</b>	<b>383,368</b>

<sup>1</sup>Surplus liquidity in the Investment Entity is invested in interest-bearing instruments and is recognized as short-term investments with a maturity exceeding three months. These investments are consequently not reported as cash and cash equivalents and are therefore included in the statement of cash flows from operating activities. The supplemental disclosure is presented to provide a total overview of the Investment Entity's available fund including cash, cash equivalents and short-term investments described here.

**Condensed income statement for the Parent Company**

SEK 000	Note	2016 Apr-Jun	2015 Apr-Jun	2016 Jan-Jun	2015 Jan-Jun	2015 Full-year
Net sales		607	1 118	1 215	2 110	2 942
<b>Revenue</b>		<b>607</b>	<b>1 118</b>	<b>1 215</b>	<b>2 110</b>	<b>2 942</b>
Other expenses		-3 995	-5 750	-7 425	-10 249	-15 363
Personnel costs		-2 614	-6 421	-7 555	-16 079	-31 167
Depreciation of tangible non-current assets		-53	-53	-106	-106	-212
Impairment losses on shares in subsidiaries, joint ventures, associated companies and other long-term securities holdings		-49 879	-503 054	-124 885	-683 150	-795 470
Result from sale of shares in portfolio companies		-	-	-	-	-
<b>Operating profit/loss</b>		<b>-55 934</b>	<b>-514 160</b>	<b>-138 756</b>	<b>-707 474</b>	<b>-839 270</b>
Financial net		-10 892	-14 685	-21 564	-23 808	-44 233
<b>NET PROFIT/LOSS FOR THE PERIOD</b>		<b>-66 826</b>	<b>-528 845</b>	<b>-160 320</b>	<b>-731 282</b>	<b>-883 503</b>

**Condensed statement of comprehensive income for the Parent Company**

SEK 000	Note	2016 Apr-Jun	2015 Apr-Jun	2016 Jan-Jun	2015 Jan-Jun	2015 Full-year
Net profit/loss for the period		-66 826	-528 845	-160 320	-883 503	-290 774
<b>Total comprehensive income/loss for the period</b>		<b>-66 826</b>	<b>-528 845</b>	<b>-160 320</b>	<b>-883 503</b>	<b>-290 774</b>

Condensed balance sheet for the Parent Company

SEK 000	Note	30 Jun 2016	30 Jun 2015	31 Dec 2015
<b>ASSETS</b>				
<b>Non-current assets</b>				
Tangible non-current assets		-	212	106
Shares in subsidiaries, joint ventures, associated companies and other long term-securities holdings		111,509	279,785	229,513
Loans receivable from portfolio companies		37,780	33,299	27,523
Other financial assets		33,159	33,644	33,386
<b>Total non-current assets</b>		<b>182,448</b>	<b>346,940</b>	<b>290,528</b>
<b>Current assets</b>				
Receivables from portfolio companies		1,287	1,339	3,549
Other current receivables		1,025	2,688	5,995
Prepaid expenses and accrued income		2,299	2,463	2,500
Short-term investments		257,761	278,233	277,646
Cash and cash equivalents		10,613	105,135	19,589
<b>Total current assets</b>		<b>272,985</b>	<b>389,858</b>	<b>309,279</b>
<b>TOTAL ASSETS</b>		<b>455,433</b>	<b>736,798</b>	<b>599,807</b>
<b>EQUITY AND LIABILITIES</b>				
<b>Equity</b>				
<b>Restricted equity</b>				
Share capital		26,725	26,692	26,725
<b>Unrestricted equity</b>				
Share premium reserve		1,884,310	1,884,310	1,884,310
Accumulated losses		-1,677,830	-793,077	-793,045
Net profit/loss for the period		-160,320	-731,282	-883,503
<b>Total equity</b>		<b>72,885</b>	<b>386,643</b>	<b>234,487</b>
<b>Long-term liabilities</b>				
Convertible loan	3	371,822	329,183	349,205
Pension obligations		3,953	4,439	4,180
<b>Total long-term liabilities</b>		<b>375,775</b>	<b>333,622</b>	<b>353,385</b>
<b>Current liabilities</b>				
Accounts payable		974	1,441	1,444
Liabilities to portfolio companies		513	691	513
Other current liabilities		552	1,094	4,425
Accrued expenses and prepaid income		4,734	13,307	5,553
<b>Total current liabilities</b>		<b>6,773</b>	<b>16,533</b>	<b>11,935</b>
<b>Total liabilities</b>		<b>382,548</b>	<b>350,155</b>	<b>365,320</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>455,433</b>	<b>736,798</b>	<b>599,807</b>

Pledged assets and contingent liabilities

SEK 000	Note	30 Jun 2016	30 Jun 2015	31 Dec 2015
Pledged assets		3,953	4,439	4,180
Credit commitment to portfolio company		-	5,000	-
<b>Total</b>		<b>3,953</b>	<b>9,439</b>	<b>4,180</b>

Condensed statement of changes in equity for the Parent Company

SEK 000	Note	Restricted equity	Unrestricted equity			
		Share capital	Share premium reserve	Accumulated losses	Net profit/loss for the period	Total equity
<b>Opening equity at Jan 1 2015</b>		<b>26.725</b>	<b>1.884.310</b>	<b>-793.045</b>	<b>-883.503</b>	<b>234.487</b>
Appropriation of loss				-883.503	883.503	
Net profit/loss for the period					-160.320	-160.320
<b>Total</b>		<b>26.725</b>	<b>1.884.310</b>	<b>-1.676.548</b>	<b>-160.320</b>	<b>74.167</b>
Effect of incentive programs				-1.282		-1.282
<b>Closing equity at 30 Jun 2016</b>		<b>26.725</b>	<b>1.884.310</b>	<b>-1.677.830</b>	<b>-160.320</b>	<b>72.885</b>
<b>Opening equity at Jan 1 2015</b>		<b>26.692</b>	<b>1.838.918</b>	<b>-502.588</b>	<b>-290.774</b>	<b>1.072.248</b>
Appropriation of loss				-290.774	290.774	
Net profit/loss for the period					-731.282	-731.282
<b>Total</b>		<b>26.692</b>	<b>1.838.918</b>	<b>-793.362</b>	<b>-731.282</b>	<b>340.966</b>
Convertible loan - equity part			49.528			49.528
Issue costs			-4.136			-4.136
Effect of incentive programs				285		285
<b>Closing equity at 30 Jun 2015</b>		<b>26.692</b>	<b>1.884.310</b>	<b>-793.077</b>	<b>-731.282</b>	<b>386.643</b>
<b>Opening equity at 1 Jan 2015</b>		<b>26.692</b>	<b>1.838.918</b>	<b>-502.588</b>	<b>-290.774</b>	<b>1.072.248</b>
Appropriation of profit				-290.774	290.774	
Net profit/loss for the year					-883.503	-883.503
<b>Total</b>		<b>26.692</b>	<b>1.838.918</b>	<b>-793.362</b>	<b>-883.503</b>	<b>188.745</b>
Convertible loan - equity part		0	49.528			49.528
Issue costs			-4.136			-4.136
Effect of incentive programs				317		317
Share issue		33				33
<b>Closing equity at 31 Dec 2015</b>		<b>26.725</b>	<b>1.884.310</b>	<b>-793.045</b>	<b>-883.503</b>	<b>234.487</b>

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## Notes to the Financial Statements

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### NOTE 1 Accounting policies

This report has been prepared in accordance with the International Accounting Standard (IAS) 34 Interim Financial Reporting and the Annual Accounts Act. The accounting policies applied to the Investment Entity and the Parent Company correspond, unless otherwise stated below, to the accounting policies and valuation methods used in the preparation of the most recent annual report.

#### Information on the Parent Company

Karolinska Development AB (publ) ("Karolinska Development," "Investment Entity" or the "Company") obtains funds from several independent investors/shareholders by issuing shares and interest-bearing instruments. The Company invests the proceeds in portfolio companies that develop medical innovations, and whose sole purpose is to generate a return through capital appreciation and investment income. These temporary investments, which are not investment entities, are designated "portfolio companies" below. The Company, with Corporate Identity Number 556707-5048, is a limited liability company with its registered office in Solna, Sweden. Karolinska Development AB aims to create value for investors, patients and researchers by investing in portfolio companies that develop products that can be sold. The business model is to select the most commercially attractive medical innovations, develop innovations to the stage where the greatest return on investment can be achieved and commercialize innovations through the sale of portfolio companies or out-licensing of products. Future deal flow will be sourced via an amended agreement with Karolinska Institutet Innovations AB, through an extended network of contracts at research institutions across the Nordic region, and through relationships with other specialist life sciences investors.

#### Changes in accounting principles and information's

No changes in accounting principles and information during the first quarter.

#### New and revised accounting principles 2016

No new or revised IFRS standards or recommendations from IFRS Interpretations Committee has had impact on the Investment Entity or on that part were these recommendations should be practiced on the income statement or balance of the mother company.

#### Definitions

Portfolio companies: Companies where Karolinska Development has made investments (subsidiaries, joint ventures, associated companies and other long-term securities holdings) which are active in pharmaceuticals, medtech, theranostics and formulation technology.

Fair value: The NASDAQ Stockholm regulations for issuers require companies listed on NASDAQ Stockholm to apply the International Financial Reporting Standards, IFRS, in their consolidated financial statements. The application of the standards allows groups of an investment company nature to apply so-called fair value in the calculation of the carrying amount of certain assets. These calculations are made on the basis of established principles and are not included in the opening accounts of the Group's legal entity, nor do they affect cash flows.

Karolinska Development applies the accounting principles of fair value according to the International Private Equity and Venture Capital Valuation Guidelines and adheres to the guidance of IFRS 13 Fair Value Measurement. Based on the valuation criteria provided by these rules, an assessment is made of each company to determine a valuation method. This takes into account whether the companies have recently been financed or involved with a transaction that includes an independent third party. If there is no valuation available based on a similar transaction, risk adjusted net present value (rNPV) calculations are made of the portfolio companies whose projects are suitable for this type of calculation. In other cases, Karolinska Development's total investment is used as the best estimation of fair value. In one other case, the valuation at the time of the last capital contribution is used.

Net asset value per share: Estimated fair value of the total portfolio, loans receivable from portfolio companies, short-term investments, cash and cash equivalents, and financial assets less interest-bearing liabilities in relation to the number of shares outstanding on the closing date.

Equity per share: Equity on the closing date in relation to the number of shares outstanding on the closing date.

Interim period: The period from the beginning of the financial year through the closing date.

Reporting period: Current quarter.

## NOTE 2 Fair value

Following a review of the Company's approach to estimating fair values of its portfolio investments the company implemented new policies for estimating level 3 fair values per June 30, 2015.

The table below shows financial instruments measured at fair value based on the classification in the fair value hierarchy. The various levels are defined as follows:

**Level 1-** Fair value determined on the basis of observed (unadjusted) quoted prices in an active market for identical assets and liabilities

**Level 2-** Fair value determined based on inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly

**Level 3-** Fair value determined based on valuation models where significant inputs are based on non-observable data

### Fair value as of 30 June 2016

SEK 000	Level 1	Level 2	Level 3	Total
<b>Financial assets</b>				
Shares in portfolio companies, at fair value through profit or loss	-	-	143,690	143,690
Loans receivable from portfolio companies	-	951	-	951
Other financial assets	-	-	38,113	38,113
Receivables from portfolio companies	-	1,287	-	1,287
Cash, cash equivalents and short-term investments	268,374	-	-	268,374
<b>Total</b>	<b>268,374</b>	<b>2,238</b>	<b>181,803</b>	<b>452,415</b>
<b>Financial liabilities</b>				
Other financial liabilities	-	-	4,798	4,798
Accounts payable	-	1,232	-	1,232
Liabilities to portfolio companies	-	513	-	513
<b>Total</b>	<b>-</b>	<b>1,745</b>	<b>4,798</b>	<b>6,543</b>

### Fair value as of 30 June 2015

SEK 000	Level 1	Level 2	Level 3	Total
<b>Financial assets</b>				
Shares in portfolio companies, at fair value through profit or loss	-	-	319,903	319,903
Other financial assets	-	-	38,113	38,113
Receivables from portfolio companies	-	1,339	-	1,339
Cash, cash equivalents and short-term investments	383,368	-	-	383,368
<b>Total</b>	<b>383,368</b>	<b>1,339</b>	<b>358,016</b>	<b>742,723</b>
<b>Financial liabilities</b>				
Other financial liabilities	-	-	5,439	5,439
Accounts payable	-	1,441	-	1,441
Liabilities to portfolio companies	-	691	-	691
<b>Total</b>	<b>-</b>	<b>2,132</b>	<b>5,439</b>	<b>7,571</b>



### Fair value (level 3) as of 30 June 2016

SEK 000	Shares in portfolio companies	Other financial assets	Other financial liabilities
At beginning of the year	267,651	38,113	5,439
Transfers to and from level 3 (loans receivable from portfolio companies)	-	-	-641
Acquisitions	17,185	-	-
Disposals	0	-	-
Gains and losses recognized through profit or loss	-141,146	-	0
<b>Closing balance 30 Jun 2016</b>	<b>143,690</b>	<b>38,113</b>	<b>4,798</b>
Total unrealized gains and losses for the period in profit or loss	-141,146	-	0
<b>Gains and losses in profit or loss for the period for assets and liabilities included in the closing balance</b>	<b>-141,146</b>	<b>-</b>	<b>0</b>

### Fair value (level 3) as of 30 June 2015

SEK 000	Shares in portfolio companies	Other financial assets	Other financial liabilities
At beginning of the year	1,113,454	38,113	11,686
Transfers to and from level 3 (loans receivable from portfolio companies)	33,299	-	-
Acquisitions	36,825	-	-
Disposals	-	-	-
Gains and losses recognized through profit or loss	-863,675	-	-6,247
<b>Closing balance 30 Jun 2015</b>	<b>319,903</b>	<b>38,113</b>	<b>5,439</b>
Total unrealized gains and losses for the period in profit or loss	-863,675	-	-6,247
<b>Gains and losses in profit or loss for the period for assets and liabilities included in the closing balance</b>	<b>-863,675</b>	<b>-</b>	<b>-6,247</b>

The Investment Entity recognizes transfers between levels in the fair value hierarchy on the date when an event or changes occur that give rise to the transfer.

### Impact of Fair Value of portfolio companies

In the table below, "Total Fair Value" is the aggregated proceeds that would be received by Karolinska Development and KDev Investments if the shares in their portfolio companies were sold in an orderly transaction between market participants at the measurement date. The calculation of the Fair Value is based on IFRS13 standards of deciding and reporting fair value and the International Private Equity and Venture Capital Valuation Guidelines (IPEV Valuation Guidelines) decided by the IPEV board that represent the current best practice, on the valuation of private equity investments.

### Impact on fair value of the agreement with Rosetta Capital

“Potential distribution to Rosetta Capital” is the amount that KDev Investments according to the investment agreement between Karolinska Development and Rosetta Capital is obligated to distribute to Rosetta Capital from the proceeds received by KDev Investments (KDev Investments Fair Value). The amount includes repayment of SEK 32 million that Rosetta Capital currently has invested in KDev Investments’ portfolio companies and the distribution of dividends from Rosetta Capital’s common and preference shares. The distribution to Rosetta Capital will only happen when KDev Investments distribute dividends. KDev Investments will only distribute dividends after all eventual payables and outstanding debt has been repaid.

If Rosetta Capital has not received 2.5 times the amount invested in KDev Investments by Rosetta Capital by 7 March 2018, then Rosetta Capital may require within 60 days that Karolinska Development acquires Rosetta’s shares in KDev Investments. The price payable for the KDev Investments shares is the fair market value of the shares, although capped at 10 % of the market capitalization of Karolinska Development at the time of the purchase, Karolinska Development can decide whether to pay the purchase price in cash or in the form of Karolinska Development shares. With the market capitalization of Karolinska Development at the end of the second quarter 2016 being SEK 379 million the price payable for the KDev Investments shares is capped to SEK 38 million.

“Net Fair Value after potential distribution to Rosetta Capital” is the net aggregated proceeds that Karolinska Development will receive after KDev Investments’ distribution of proceeds to Rosetta Capital.

### Expanded fair value calculations taking the portfolio valuation and potential distribution to Rosetta Capital in consideration

MSEK	2016-06-30	2015-06-30	2015-12-31
Karolinska Development Fair Value	134	113	134
KDev Investments Fair Value	267	566	458
<b>Total Fair Value</b>	<b>401</b>	<b>679</b>	<b>592</b>
Potential distribution to Rosetta Capital of fair value of KDev Investments*	257	359	324
<b>Net Fair Value after potential distribution to Rosetta Capital</b>	<b>144</b>	<b>320</b>	<b>268</b>

\* SEK 32 million repayment of investments in KDev Investments made by Rosetta Capital and SEK 225 million distribution of dividends to preference shares and common shares.

### Information on fair value measurement in level 3

The valuation of the company’s portfolio is based on the International Private Equity and Venture Capital Valuation Guidelines (IPEV) and IFRS 13 Fair Value Measurement. Based on the valuation criteria provided by these rules, an assessment is made of each company to determine a valuation method. This takes into account whether the companies have recently been financed or involved with a transaction that includes an independent third party. If there is no valuation available based on a similar transaction, discounted cash flow models (DCF) may be used. DCFs of the Underlying Business considers all of the cash flows of a portfolio company that are then discounted with an appropriate rate and also risk adjusted to take the developments risks in pharmaceutical development into consideration. The revenue streams are approximated from epidemiological data on the intended therapeutic indication, and a number of assumptions such as for example pricing per patient and year, market share and market exclusivity (from IPR and regulatory market protection). As described in the IPEV Valuation Guidelines the inputs into the DCF models are constructed with a high level of subjectivity. Hence, this method is only suitable for late stage assets, i.e. either pharmaceutical companies with lead projects in late stage (Phase III) development or technology projects with an established market presence where the revenues can be projected with a higher degree of confidence than in products in earlier stages of development, As of December 31, 2015 there are currently no portfolio companies valued by DCF.

Companies with an established sales revenue stream may be valued by sales multiples. The multiples should be derived from current market-based multiples with comparable companies. As with valuation with DCF, this method require that the portfolio company is mature in its market presence and that the sales forecasts can be made with sufficient certainty. Furthermore, as this method only considers revenue streams, the IPEV Valuation Guidelines stipulates that non-operating assets or liabilities need to be taken into account when applying this method. As of December 31, 2015 there are currently no portfolio companies valued by multiples.

## KAROLINSKA DEVELOPMENT

Early stage companies, defined as pharmaceutical assets prior to Phase III development and technology assets prior to establishing targeted and sustainable sales revenues, that have recently not been financed by a transaction involving a third party investor (as defined in 2.2) are valued by the price of recent investment corresponding to the last post-money valuation completed for that company. Companies in such early stages of development typically show a relatively flat value increase through the financing rounds as the company completed its preclinical and early clinical milestones. It is therefore not expected to see any significant value uplift during this period and the post-money valuation, despite not being validated by an external investor, is considered a good approximation of the fair value.

Such situations occur when Karolinska Development alone or with other investors that have previously also participated in preceding investment rounds reinvest in portfolio companies. Should a new investor join an investment round, the valuation method will fall under a higher valuation priority (described in the top of Note 2), although the actual metric – post-money valuation is the same as if only existing owners would participate.

Should Karolinska Development opt out of an investment round with no intention to participate at later rounds the price of recent investment (without Karolinska Development) may still be a valid valuation method, granting that these circumstances lead to disproportionate post-money valuation because of the loss of negotiation power over the pricing (and Karolinska Development's ownership may be drastically diluted). However, as the unwillingness to invest from Karolinska Development also likely mirror a lower perceived value compared to previous post-money valuations, a lowering of value is often a good indication of fair value in such cases.

As the share price of the internal financing rounds are decided by the existing investors, caution is taken to ensure that the share price is not artificially inflated. At each quarterly fair value assessment the post-money valuation by internal investment rounds are benchmarked against portfolio company progress (met or failed milestones for example), comparable values for peer companies, bids from external investors (e.g. term sheets, LOIs) and other applicable valuation methods to ensure that the post-money valuation is at an appropriate level to be considered fair value.

The cautious approach is particularly true if an investment round with existing owners succeeds an investment rounds that included a then third party investor. An uplift in fair value may be merited if e.g. milestones have been met during the time between investments but high increases may not be considered in the fair value. To mitigate, the amount invested into the portfolio company since the post-money valuation from the transaction involving third party investors should be added, while additional uplifts in post-money valuation may not be included in fair value until the value is validated by a third party investor yet again.

Net asset value, defined as a portfolio company's assets minus its liabilities, is used for portfolio companies without current operations. This typically occurs in companies considered financial assets as a consequence of discontinued development projects or withdrawn products. In essence, these companies are valued by its liquidation value.

### NOTE 3 **Convertible loan**

Karolinska Development has issued convertible debentures, so called compound financial instruments, in which the holder has right to convert into shares, the number of shares to be issued are not affected by changes in fair value of the shares.

The debt portion of the compound financial instrument is initially recognized at fair value for a similar debt without a conversion right into shares. The equity portion is initially recognized as the difference between the total fair value of compound financial instrument and the fair value of the debt portion. Directly attributable transaction costs are allocated to the debt respectively equity portion based on their initial recognized values.

Post-acquisition the debt portion of the compound financial instrument is valued to amortized costs based on the effective interest method. The equity portion of the compound financial instrument is not revalued post-acquisition, except at conversion or redemption.

The Investment Entity issued convertible debentures with a nominal amount of 386,859 KSEK on 2 January 2015 which have a nominal interest rate of 8 percent. The convertible debentures will fall due for payment on 31 December 2019 at the nominal amount of 586,423 KSEK (provided that accrued interest is interest bearing), the convertibles grant a right to convert into shares at a conversion rate of 22 SEK per series B share. The value of the debt and equity part (conversion right) was determined on the date of issuance.

The convertible debentures are presented in the balance sheet as shown in the below table.

SEK 000	30 Jun 2016	30 Jun 2015	31 Dec 2015
Nominal amount of convertible debentures issued on 2 January 2015	386,859	386,859	386,859
Issue costs	-28,171	-28,171	-28,171
Equity portion	-49,528	-49,528	-49,528
<b>Debt at issuance date 2 January 2015</b>	<b>309,160</b>	<b>309,160</b>	<b>309,160</b>
Accrued interest costs	62,662	20,023	40,045
Paid interest	-	-	-
<b>TOTAL</b>	<b>371,822</b>	<b>329,183</b>	<b>349,205</b>

## NOTE 4 Unconsolidated subsidiaries

Karolinska Development is an investment entity according to IFRS 10. Subsidiaries are not consolidated in the Investment Entity's financial statements. The table below indicates all unconsolidated subsidiaries.

Ownership interests include indirect ownership through portfolio companies. The ownership interest corresponds to formal voting rights through participating interests.

Name	Registered office	Total holding		
		30 Jun 2016	30 Jun 2015	31 Dec 2015
Avaris AB (dormant)	Huddinge	94.87%	94.87%	94.87%
KCIF Fund Management AB	Solna	37.50%	37.50%	37.50%
KD Incentive AB	Solna	100.00%	100.00%	100.00%
KDev Oncology AB	Solna	100.00%	100.00%	100.00%
Pharmanest AB	Solna	-	64.68%	-

### Influence over the portfolio companies

In addition to the above named subsidiaries, Karolinska Development holds majority interests, though not controlling interests, in KDev Investments AB, Lipidor AB and Umecrine Cognition AB.

Karolinska Development's ownership interests in these portfolio companies ranges from 38% up to nearly 90%. Karolinska Development has entered into shareholder agreements with other shareholders regarding these companies. The shareholder agreements ensure other investors or founders influence. Therefore, Karolinska Development is not considered to have controlling interest, even if its ownership interest formally exceeds 50%. Karolinska Development has concluded that in these situations the holdings should be accounted for as investments in associated companies or joint ventures, depending on the degree of influence.

## NOTE 5 Related party transactions

Karolinska Development AB has entered into an agreement with a company related to the Chairman of the Board, OrfaCare Consulting GmbH, regarding consultations by the Chairman of the Board, Bo Jesper Hansen. The consultancy agreement is unrelated to his position as Chairman of the company. The agreement is valid from 1 March 2015, after extension, until the date of the Company's Annual General Meeting 2017. The consultancy fee is market based and amounted during the period January – June 2016 to 528 KSEK (352 KSEK), of which 264 KSEK during the second quarter 2016.