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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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- The Total Fair Value of Karolinska Development's portfolio at the end of September 2016 was SEK 410.5 million, an increase from the Total Fair Value of SEK 401.2 million at the end of June 2016. Net Fair Value of the portfolio at the end of September 2016 was SEK 150.9 million, an increase of SEK 7.3 million compared to the end of June 2016. The increase was mainly due to investments during the period.
- Net sales amounted to SEK 0.4 million in the third quarter (SEK 0.3 million in the third quarter 2015). Net loss amounted to SEK 17.9 million (SEK 27.5 million). Earnings per share amounted to SEK -0.3 (SEK -0.5).
- Karolinska Development's investments in portfolio companies during the third quarter amounted to SEK 6.9 million. Total investments in portfolio companies by other specialized life science investors during third quarter amounted to SEK 52.8 million.
- Cash, cash equivalents and short term liquidity investments decreased by SEK 12.1 million during the third quarter and amounted to SEK 256.3 million as of September 30, 2016.
- Operational costs in the third quarter amounted to SEK 7.8 million.

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## Karolinska Development – Highlights third quarter

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- Karolinska Development continued to see good progress during the third quarter through its portfolio companies making important announcements in relation to financing, advances with 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

- Dilafor AB raised SEK 51 million from new and existing investors to facilitate a Phase IIb dose finding trial with its lead candidate tafoxiparin to evaluate its ability to decrease the incidence of protracted labor in women. The trial is planned to start before the year end 2016. (September 2016).
- Promimic AB secured SEK 23.8 million from new and existing investors to finance the establishment of US operations to drive the commercialization of its novel HA<sup>nano</sup> Surface coating technology for medical and dental implants (September 2016).
- BioArctic AB entered into a strategic collaboration with AbbVie, a global biopharmaceutical company, to develop and commercialize BioArctic's portfolio of antibodies directed against alpha-synuclein for the treatment of Parkinson's disease and other potential indications. (September 2016).
- OssDsign AB presented preliminary data at European Congress of Neurosurgery 2016 from a retrospective study of patients undergoing cranioplasty using its OSSDSIGN Cranial implants, the results of which indicate that this novel implant may provide a better, more permanent solution for cranioplasty, even in a complex patient population (September 2016).
- KDev Investments divested its entire shareholding in Clanotech AB to Rosetta Capital. Karolinska Development retains an economic interest in Clanotech through an earn-out agreement, the proceeds of which will be retained entirely by Karolinska Development (July 2016).

### Board and Management Teams

- Umeocrine Cognition AB announced the appointment of Dr. Bruce Scharschmidt to its board of directors and as Senior Development Adviser (July 2016).

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## Post Period Events

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- Aprea Therapeutics AB first patient treated in Phase II trial of APR-246 in high-grade serous ovarian cancer (October 2016)
- Aprea Therapeutics AB presented clinical data from ongoing Phase I/II study of APR-246 at ESMO (October 2016)
- Promimic and Danco completed the set up and validation phase of the US production facility for HA<sup>nano</sup> Surface coating technology (October 2016)
- In Promimic AB Tord Lendau was elected as Chairman of the Board of Directors, and Håkan Krook and Patrik Sjöstrand as Non-executive Directors (October 2016)
- Dilaforette announced it has changed its name to Modus Therapeutics and its intention to conduct an initial public offering (October 2016)
- Modus Therapeutics announced an extension to its ongoing Phase II clinical study to include patients aged 12-18; and to increase sample size of the study from 45 to around 150 patient (November 2016)
- Umecrine Cognition announces positive Phase 1 data with GR3027 in hepatic encephalopathy and raised SEK 45 million in a private financing round (November 2016)
- Trinity Delta, a UK based equity research firm, has initiated coverage of Karolinska Development and issued its first report on the Company (November 2016)

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

"The progress that Karolinska Development has made in the past 18 months towards its ambition of becoming a leading Nordic life sciences investor has been significant. The Company has recently completed a strategic turnaround that has strengthened its investment expertise, focused its portfolio, attracted experienced and talented leadership to its portfolio companies, and supported the refinancing of these companies through syndication with international and domestic investors."

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## Chief Executive's Report

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### Karolinska Development

Karolinska Development continues to make good 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 the third quarter 2016, Karolinska Development saw several of its portfolio companies secure new funds to finance the progression of their businesses toward defined value-creating milestones. Karolinska Development participated in these fundraising events directly and indirectly via KDev Investments, and was pleased to see experienced new investors leading and participating in the investor syndicates.

The majority of companies in Karolinska Development's portfolio is now funded to deliver key value-generating milestones over the coming years, with additional value potential retained in divested companies.

### Investment Strategy

Karolinska Development has spent the past 18 months reorganizing its business to become an investment company focused 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.

The Investment team believes that some of the most innovative biomedical research and ideas in Europe originate at institutions in the Nordic region, and there is a substantial pool of hidden value. At the same time, the Nordic region represents an under-ventured area for life science investments. The situation is rapidly improving with increasing international investment into the region from specialist life sciences investors highlighting its potential to become the next major life science cluster. Karolinska Development aims to be a focal point for this activity.

The Company's strategy will focus on identifying new investment opportunities across the Nordic region, to expand and diversify its portfolio into broader areas of life sciences with near-term value-inflection points, such as medical technologies, diagnostics or digital health. The Company will also seek to make investments in under-valued companies on the public markets in the region and in more mature investments, where returns may be realized more quickly than from early stage companies. Karolinska Development will look to syndicate deals with experienced life science investors.

### An exciting portfolio with blockbuster potential

At the end of the third quarter 2016, Karolinska Development's portfolio comprised ten companies. These companies are developing highly differentiated and commercially attractive products that have the potential to deliver compelling clinical and health economic benefits, as well as attractive returns on investment.

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. During 2016, SEK 325 million was invested in Karolinska Development portfolio companies, of which 92 % was from new investors.

A number of Karolinska Development's portfolio companies raised funds during the period founding for the development of their projects.

Aprea Therapeutics raised SEK 437 million in a Series B financing round in March, which involved a syndicate of leading life sciences investors from the US, Canada and Sweden.

Umecrine Cognition raised in a private financing round SEK 45 million, in which several new Nordic investors participated alongside founder investor Karolinska Development.

Dilafor raised SEK 51 million with new investors including Lee's Healthcare Industry Fund and Pila AB, and participation from existing investors including Rosetta Capital IV and KDev Investments (an investment fund jointly owned by Karolinska Development and Rosetta Capital). The new funds will be used to facilitate a Phase IIb dose finding trial of Dilafor's lead candidate, tafoxiparin, a modified form of heparin, which is in clinical development to decrease the incidence of protracted labor both after induction of labor and after spontaneous onset of labor. Protracted labor (i.e. labor that lasts more than 12 hours) is the main cause of emergency surgical deliveries, such as caesarian section. The condition is often associated with complications for both mother and child. The Phase IIb trial is planned to start before the year end 2016 at clinical centers in Northern Europe.

In addition, Promimic raised SEK 23.8 million to finance the establishment of its commercial operations in the US, the world's largest market for medical implants. Chalmers Ventures, one of Sweden's most prolific investors in innovative businesses, participated as a new investor alongside existing investors KDev Investments and Almi Invest. Promimic's new operation will be based in Austin, Texas with the aim of building up a regional sales team targeting the US orthopedic and dental implant markets with novel products enhanced with Promimic's HA<sup>nano</sup> Surface coating technology.

Additional non-dilutive financing is also sought by portfolio companies to support the development of their businesses towards the next milestones. Earlier in the year, Karolinska Development reported that Dilaforette (name changed to Modus Therapeutics) entered a clinical collaboration with the Arabian Gulf University in Bahrain, and is receiving up to SEK 10 million to support its Phase II proof of concept trial of sevuparin in patients with sickle cell disease (SCD); and Promimic, which is receiving investment into the establishment of a production line for its HA<sup>nano</sup> Surface process in the US from its partner Danco Anodizing – the companies announced the validation of the manufacturing line in October 2016.

### Portfolio News: pipeline progress

In September, BioArctic entered a strategic collaboration with AbbVie, a global biopharmaceutical company, to develop and commercialize BioArctic's portfolio of antibodies directed against alpha-synuclein for the treatment of Parkinson's disease and other potential indications. Mutations in alpha-synuclein are strongly linked to development of Parkinson's disease. Soluble aggregates of the alpha-synuclein protein are toxic to neurons and lead to the deposits that are a hallmark of the disease.

Also, in September, OssDsign presented preliminary data at the European Congress of Neurosurgery from a retrospective study of patients undergoing cranioplasty using its OSSDSIGN Cranial implants, the results of which indicate that this novel implant may provide a better, more permanent solution for cranioplasty, even in a complex patient population.

## Portfolio news: board and management team

In July, Umecrine Cognition 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 Umecrine 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.

Previously Karolinska Development has reported the appointments of Christian S. Schade as President and Chief Executive Officer of Aprea (June 2016); and Simon Cartmell as Chairman of the Board of OssDsign (April 2016), both of whom have significant international leadership experience in the life sciences sector.

## Significant portfolio events after the interim period

In October, Dilaforette announced change of its name to Modus Therapeutics and its intention to undertake an initial public offering (IPO) in order to finance the further clinical development of the Company's lead candidate sevuparin for the treatment of SCD. Should Modus' shares be listed it would represent the first time a Karolinska Development company has attempted and achieved a stock market listing. In November, an independent Data Safety Monitoring Board granted permission for the Company to include patients aged 12-18 in its ongoing Phase II clinical study with sevuparin. Modus also decided to increase the sample size of the study from 45 to around 150 patients so that this study can play a more important role in the overall clinical program needed to register sevuparin.

Also in October, Aprea Therapeutics presented efficacy and safety data from a Phase Ib part of its PiSARRO trial of APR-246 in high-grade serous ovarian cancer patients at the 2016 European Society for Medical Oncology (ESMO) Annual Meeting. The results showed that APR-246 combined with the standard chemotherapy is generally well tolerated and showed robust signals of efficacy, and supported earlier findings presented as the American Society of Clinical Oncology (ASCO) annual meeting in June.

At the same time, Aprea also announced that it had enrolled the first patients in the Phase II part of the PiSARRO clinical study, which aims to enroll up to 400 relapsed high-grade serous ovarian cancer patients in Europe and the United States. Patients will be randomized between carboplatin and pegylated liposomal doxorubicin with or without APR-246; the primary endpoint for the study is progression-free survival.

As mentioned briefly earlier, Promimic and Danco announced the successful completion of the production line for Promimic's HA<sup>nano</sup> surface coating for orthopedic and dental implants. The two companies entered a strategic partnership in March 2016 under which Danco became the preferred process partner for Promimic for the USA and China medical implant markets. Danco has invested in the production line for HA<sup>nano</sup> Surface at its manufacturing facility in Warsaw, IN, USA.

In October, Promimic strengthened its board through the elections of Tord Lendau as Chairman of the Board of Directors, and Håkan Krook and Patrik Sjöstrand as Non-executive Directors – all bring significant and complementary leadership, operational and commercial experience from innovative, rapid growth companies.

## 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.

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## Portfolio Companies

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Karolinska Development's portfolio now comprises ten therapeutics and medtech companies. Five of them are presented on the following pages.



**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 Therapeutics AB



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

Aprea Therapeutics 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 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 has presented efficacy and safety data from the Phase Ib part of PiSARRO at key clinical congresses including the European Society for Medical Oncology (ESMO) annual meeting in October, and the American Society of Clinical Oncology (ASCO) meeting in June. The results showed that APR-246 combined with standard chemotherapy is generally well tolerated and showed robust signals of efficacy.

Aprea has now advanced APR-246 into the Phase II portion of the PiSARRO study, which aims to enroll up to 400 relapsed high-grade serous ovarian cancer patients in Europe and the United States. Patients will be randomized between carboplatin and pegylated liposomal doxorubicin with or without APR-246; the primary endpoint for the study is progression-free survival.

### 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

- Promising efficacy and safety data from Phase Ib part of PiSARRO were presented at ESMO (October 2016) confirming earlier results presented at ASCO (June 2016).
- First patients enrolled into Phase II part of the PiSARRO study (September 2016).
- Christian S. Schade appointed as President and Chief Executive Officer (June 2016).
- SEK 437 million raised from syndicate of leading international life science investors (March 2016).

### Expected milestones

- Complete recruitment into the Phase II part of the PiSARRO study
- Results of Phase II part of PiSARRO study (2018)



**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**

 modustx.com

\* Includes indirect holdings through KDev Investments

## Modus Therapeutics AB



### Targeting relief for sickle cell disease patients

Modus Therapeutics (formerly Dilaforette) 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 the risk of premature death.

In October 2015, Modus 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. In November 2016, an independent Data Safety Monitoring Board granted permission for the Company to include patients aged 12-18 in the study. Results from this study are now expected in H1 2018.

The trial is targeting 150 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 Modus.

Modus is also aiming 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

- Dilaforette announced its name change to Modus Therapeutics and announced its intention to conduct an Initial Public Offering (October 2016)
- Phase II study expanded to include adolescent SCD patients, sample size increased (November 2016)
- 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 2018.

**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.cognition.com](http://umecrine.cognition.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 Ia clinical study investigating its safety and efficacy in healthy volunteers. A combined phase Ib/IIa clinical study is planned to begin in H1 2017 for further clinical investigation in HE.

### 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 Ia clinical study (H2 2016).
- Initiate phase Ib of the combined phase Ib/IIa 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 orthopedics 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

- Preliminary data presented at the European Congress of Neurosurgery from a retrospective study of patients undergoing cranioplasty using its OSSDSIGN Cranial implants, highlighting its potential in this setting (September 2016).
- 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**

30%\*

**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

- Manufacturing production line in US validated – will form base for production of products for the US and China medical implant market (October 2016)
- Raised SEK 23.8 million from new and existing investors to finance the establishment of its commercial operations in the US (September 2016)
- Promimic's partner S.I.N. sales of HA<sup>nano</sup> over target in H1 2016 in Brasil. Continued positive sales development for S.I.N. during H2 2016.
- Promimic and Danco Anodizing signed a license agreement where Danco will invest in a production line in the US for the HA<sup>nano</sup> Surface process. (March 2016). The production line was completed in October 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).
- Board strengthened with elections of new Chairman and two Non-executive Directors

### 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 Jul-Sep	2015 Jul-Sep	2016 Jan-Sep	2015 Jan-Sep	2015 Full-year
<b>Condensed income statement</b>					
Change in fair value in portfolio companies	0.4	-13.1	-140.7	-876.8	-976.5
Net profit/loss	-17.9	-27.5	-193.8	-933.1	-1,054.7
<b>Balance sheet information</b>					
Cash, cash equivalents and short-term investments			256.3	328.4	297.2
<b>Share information</b>					
Earnings per share, weighted average, before and after dilution (SEK)	-0.3	-0.5	-3.6	-17.6	-19.8
Net asset value per share (SEK) (Note 1)			1.1	7.0	4.7
Equity per share (SEK) (Note 1)			1.0	7.0	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	6.9	44.0	24.0	115.1	130.8
Of which investments not affecting cash flow	0.4	4.6	1.2	10.9	11.5
Fair value of portfolio holdings			151.0	351.8	267.7

### Results third quarter 2016

As part of the restructuring of Karolinska Development the number of employees has been reduced during 2015. During January – September 2016 this has resulted in Personal Costs being reduced with 41% from SEK 21.4 million in 2015 to SEK 12.6 million in 2016. In the third quarter Personal Costs were SEK 5.0 million – a SEK 0.3 million reduction compared to same period in 2015.

The restructuring also reduced Other Expenses and during January – September 2016, Other Expenses amounted to SEK 10.2 compared to SEK 13.0 in same period 2015. In the third quarter Other Expenses amounted to SEK 2.8 million which was an increase of SEK 0.1 million compared to same period in 2015.

During the first half year Result of Change in Fair Value has been dominated by value reductions in the portfolio companies. With a more focused portfolio no negative adjustments to the portfolio fair value were made during the third quarter and Result of Change in Fair Value increased by SEK 0.4 million.

The above made Operating Profit/Loss during the third quarter decrease by 67.5% to SEK -7.0 compared to SEK -20.9 in same period in 2015. January – September Operating Profit/Loss amounted to SEK -161.9 – mainly because of the reduction in Fair Value in Akinion and Clanotech.

Financial Costs amounted to SEK -10.9 million during the third quarter. Because of increased financial cost regarding the outstanding convertible bond this was an increase of SEK 4.3 million compared to same period in 2015.

Net Loss for the third quarter decreased with 36% and amounted to SEK -17.9 million compared to a loss of SEK -27.5 million in same period in 2015.

## Investments in portfolio companies third quarter 2016

Part of Karolinska Development's investment focus has been to attract external specialized life science investors to its portfolio companies, and during the third quarter SEK 52.8 million was invested by external investors. In the same period Karolinska Development invested SEK 6.9 million. The investments amounted to:

- Promimic AB, SEK 3.6 million
- Umecrine Cognition SEK 2.9 million
- Interest on loans to portfolio companies SEK 0.4 million

Of the SEK 6.9 million invested by Karolinska Development during the third quarter, SEK 6.5 million was cash investments and SEK 0.4 million was non-cash investments.

During January – September SEK 300 million was invested by external investors and SEK 25.0 million was invested by Karolinska Development.

## Value development third quarter 2016

During the third quarter, Fair Value of the portfolio directly invested in by Karolinska Development increased by SEK 3.3 million to SEK 137.4 million. The part of the portfolio invested indirectly by KDev Investments increased with SEK 6.2 million to SEK 273.1 million. Total Fair Value was SEK 410.5 million and the change in Total Fair Value amounted to SEK 9.5 million.

Because of the SEK 6.2 million increase in the KDev Investments portfolio, the potential distribution to Rosetta Capital increased by SEK 2.2 million and potential distribution to Rosetta Capital amounted to SEK 259.7 million. Net Fair Value increased by SEK 7.3 million and ended at SEK 150.9 million.

As SEK 6.9 million was invested by Karolinska Development, the Result of Change in Fair Value increased by SEK 0.4 million (SEK 7.3 million minus SEK 6.9 million).

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

The Investment Entity's equity to total assets ratio was 28% (40%) on 30 September 2016 and equity amounted to SEK 52.8 million (SEK 247.9 million). Cash, cash equivalents and short-term investments in the Investment Entity amounted to SEK 256.3 million (SEK 297.2 million), of which SEK 30.4 million is provisionally allocated for anticipated follow-on investments in the KDev Investments portfolio. Total assets amounted to SEK 449.5 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 - September 2016, the Parent Company's operating loss amounted to SEK -161.9 million (SEK -725.6 million), a change of SEK 563.9 million compared with the same period in 2015. Impairment losses during the same period amounted to SEK -140.7 million (SEK -693.5 million) and were recognized in the holdings in KDev Investments AB SEK -139.9 million, KCIF Co-Investment Fund KB SEK 0.7 million, share of result in KCIF Co-Investment Fund KB SEK -1.5 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 therapeutic 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. The medtech portfolio is considered having less risk and uncertainty than the therapeutic portfolio companies.

#### 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.

Solna, 23 November 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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Year-end Report	28 February 2017
Annual Report 2016	19 April 2017
Interim Report January-March 2017	16 May 2017
Annual General Meeting	24 May 2017
Interim Report January-June 2017	29 August 2017
Interim Report January-September 2017	28 November 2017

Karolinska Development is required by law to publish the information in this interim report. The information was published on 23 November 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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Note: This report is a translation of the Swedish interim report. In case of any discrepancies, the Swedish version shall prevail.

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## Review report

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Karolinska Development AB, corporate identity number 556707-5048

### Introduction

We have reviewed the condensed interim report for Karolinska Development AB, the Investment Entity, as at September 30, 2016 and for the nine months period then ended. The Board of Directors and the Managing Director are responsible for the preparation and presentation of this interim report in accordance with IAS 34 and the Swedish Annual Accounts Act. Our responsibility is to express a conclusion on this interim report based on our review.

### Scope of review

We conducted our review in accordance with the International Standard on Review Engagements, ISRE 2410 *Review of Interim Financial Statements Performed by the Independent Auditor of the Entity*. A review consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with International Standards on Auditing and other generally accepted auditing standards in Sweden. The procedures performed in a review do not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

### Conclusion

Based on our review, nothing has come to our attention that causes us to believe that the interim report is not prepared, in all material respects, in accordance with IAS 34 regarding the Investment Entity, and in accordance with the Swedish Annual Accounts Act regarding the Parent Company.

Solna, November 23, 2016

Ernst & Young AB

Björn Ohlsson

Authorized Public Accountant

## Financial Statements

### Condensed income statement for the Investment Entity

SEK 000	Note	2016 Jul-Sep	2015 Jul-Sep	2016 Jan-Sep	2015 Jan-Sep	2015 Full-year
Revenue		435	324	1,650	2,434	2,942
Other expenses		-2,790	-2,705	-10,215	-12,954	-15,363
Personnel costs		-5,032	-5,329	-12,587	-21,408	-31,167
Depreciation of tangible non-current assets		0	-53	-106	-159	-212
Result of change in fair value of shares in portfolio companies	2	423	-13,131	-140,723	-876,806	-976,488
Result from sale of shares in portfolio companies		-	-	-	-	-
<b>Operating profit/loss</b>		<b>-6,964</b>	<b>-20,894</b>	<b>-161,981</b>	<b>-908,893</b>	<b>-1,020,288</b>
Financial net		-10,916	-6,626	-31,839	-24,186	-34,385
<b>Profit/loss before tax</b>		<b>-17,880</b>	<b>-27,520</b>	<b>-193,820</b>	<b>-933,079</b>	<b>-1,054,673</b>
Taxes		-	-	-	-	-
<b>NET PROFIT/LOSS FOR THE PERIOD</b>		<b>-17,880</b>	<b>-27,520</b>	<b>-193,820</b>	<b>-933,079</b>	<b>-1,054,673</b>

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

SEK 000	Note	2016 Jul-Sep	2015 Jul-Sep	2016 Jan-Sep	2015 Jan-Sep	2015 Full-year
Net/profit loss for the period		-17,880	-27,520	-193,820	-933,079	-1,054,673
<b>Total comprehensive income/loss for the period</b>		<b>-17,880</b>	<b>-27,520</b>	<b>-193,820</b>	<b>-933,079</b>	<b>-1,054,673</b>

### Earnings per share for the Investment Entity

SEK	Note	2016 Jul-Sep	2015 Jul-Sep	2016 Jan-Sep	2015 Jan-Sep	2015 Full-year
Earnings per share, weighted average, before and after dilution		-0.34	-0.52	-3.64	-17.56	-19.84
Number of shares, weighted average		53,209,361	53,140,273	53,207,369	53,140,273	53,151,328

Condensed balance sheet for the Investment Entity

SEK 000	Note	30 Sep 2016	30 Sep 2015	31 Dec 2015
<b>ASSETS</b>				
<b>Non-current assets</b>				
Tangible non-current assets		-	159	106
Shares in portfolio companies at fair value through profit or loss	2	150,980	351,750	267,651
Loans receivable portfolio companies		951	-	914
Other financial assets		38,113	38,113	38,113
<b>Total non-current assets</b>		<b>190,044</b>	<b>390,022</b>	<b>306,784</b>
<b>Current assets</b>				
Receivables from portfolio companies		1,154	1,174	3,549
Other current receivables		1,419	6,490	5,995
Prepaid expenses and accrued income		544	1,486	897
Short-term investments, at fair value through profit or loss		237,706	278,019	277,646
Cash and cash equivalents		18,605	50,337	19,589
<b>Total current assets</b>		<b>259,428</b>	<b>337,506</b>	<b>307,676</b>
<b>TOTAL ASSETS</b>		<b>449,472</b>	<b>727,528</b>	<b>614,460</b>
<b>EQUITY AND LIABILITIES</b>				
<b>Equity</b>				
Share capital		26,732	26,692	26,725
Other contributed capital		1,874,236	1,874,236	1,874,236
Retained earnings		-1,848,111	-1,531,260	-1,653,080
<b>Total equity</b>		<b>52,857</b>	<b>369,668</b>	<b>247,881</b>
<b>Long-term liabilities</b>				
Convertible loan	3	383,129	339,194	349,205
Other financial liabilities		4,798	5,439	5,439
<b>Total long-term liabilities</b>		<b>387,927</b>	<b>344,633</b>	<b>354,644</b>
<b>Current liabilities</b>				
Accounts payable		646	951	1,444
Liabilities to portfolio companies		494	663	513
Other current liabilities		723	993	4,425
Accrued expenses and prepaid income		6,825	10,620	5,553
<b>Total current liabilities</b>		<b>8,688</b>	<b>13,227</b>	<b>11,935</b>
<b>Total liabilities</b>		<b>396,615</b>	<b>357,860</b>	<b>366,579</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>449,472</b>	<b>727,528</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	Other contributed capital	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			-193,820	-193,820
<b>Total comprehensive income for the period</b>			<b>-193,820</b>	<b>-193,820</b>
Effect of incentive programs			-1,211	-1,211
Share issue	7			7
<b>Closing equity at 30 Sep 2016</b>	<b>26,732</b>	<b>1,874,236</b>	<b>-1,848,111</b>	<b>52,857</b>
<b>Opening equity at 1 Jan 2015 (restated)</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			-933,079	-933,079
<b>Total comprehensive income for the period</b>			<b>-933,079</b>	<b>-933,079</b>
Convertible loan - equity part		49,528		49,528
Issue costs		-4,136		-4,136
Effect of incentive programs			543	543
<b>Closing equity at 30 Sep 2015</b>	<b>26,692</b>	<b>1,874,236</b>	<b>-1,531,260</b>	<b>369,668</b>
<b>Opening equity at 1 Jan 2015 (restated)</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-Sep	2015 Jan-Sep
<b>Operating activities</b>			
Operating profit/loss		-161,981	-908,893
<b>Adjustments for items not affecting cash flow</b>			
Depreciation		106	159
Change in fair value	2	140,723	876,806
Other items		-1,332	369
Proceeds from short-term investments		-109	575
Interest paid/received		-1	132
<b>Cash flow from operating activities before changes in working capital and operating investments</b>		<b>-22,594</b>	<b>-30,852</b>
<b>Cash flow from changes in working capital</b>			
Increase (-)/Decrease (+) in operating receivables		6,128	6,221
Increase (+)/Decrease (-) in operating liabilities		-3,425	-17,054
<b>Operating investments</b>			
Acquisitions of shares in portfolio companies		-22,686	-104,202
Proceeds from sale of short-term investments <sup>1</sup>		41,415	-
Investments in short-term investments <sup>1</sup>		-	-148,355
<b>Cash flow from operating activities</b>		<b>-984</b>	<b>-294 242</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>-984</b>	<b>37,452</b>
Cash and cash equivalents at the beginning of the year		19,589	12,885
<b>CASH AT THE END OF THE PERIOD</b>		<b>18,605</b>	<b>50,337</b>

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

<b>CASH AT THE END OF THE PERIOD</b>	<b>18,605</b>	<b>50,337</b>
Short-term investments, market value at closing date	237,706	278,019
<b>CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS AT THE END OF THE PERIOD</b>	<b>256,311</b>	<b>328,356</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 Jul-Sep	2015 Jul-Sep	2016 Jan-Sep	2015 Jan-Sep	2015 Full-year
Net sales		435	324	1,650	2,434	2,942
<b>Revenue</b>		<b>435</b>	<b>324</b>	<b>1,650</b>	<b>2,434</b>	<b>2,942</b>
Other expenses		-2,790	-2,705	-10,215	-12,954	-15,363
Personnel costs		-5,032	-5,329	-12,587	-21,408	-31,167
Depreciation of tangible non-current assets		0	-53	-106	-159	-212
Impairment losses on shares in subsidiaries, joint ventures, associated companies and other long-term securities holdings		-15,787	-10,317	-140,672	-693,467	-795,470
Result from sale of shares in portfolio companies		-	-	-	-	-
<b>Operating profit/loss</b>		<b>-23,174</b>	<b>-18,080</b>	<b>-161,930</b>	<b>-725,554</b>	<b>-839,270</b>
Financial net		-10,916	-10,226	-32,480	-34,034	-44,233
<b>NET PROFIT/LOSS FOR THE PERIOD</b>		<b>-34,090</b>	<b>-28,306</b>	<b>-194,410</b>	<b>-759,588</b>	<b>-883,503</b>

Condensed statement of comprehensive income for the Parent Company

SEK 000	Note	2016 Jul-Sep	2015 Jul-Sep	2016 Jan-Sep	2015 Jan-Sep	2015 Full-year
Net profit/loss for the period		-34,090	-28,306	-194,410	-759,588	-883,503
<b>Total comprehensive income/loss for the period</b>		<b>-34,090</b>	<b>-28,306</b>	<b>-194,410</b>	<b>-759,588</b>	<b>-883,503</b>

Condensed balance sheet for the Parent Company

SEK 000	Note	30 Sep 2016	30 Sep 2015	31 Dec 2015
<b>ASSETS</b>				
<b>Non-current assets</b>				
Tangible non-current assets		-	159	106
Shares in subsidiaries, joint ventures, associated companies and other long term-securities holdings		95,709	304,533	229,513
Loans receivable portfolio companies		44,247	37,920	27,523
Other financial assets		33,071	33,562	33,386
<b>Total non-current assets</b>		<b>173,027</b>	<b>376,174</b>	<b>290,528</b>
<b>Current assets</b>				
Receivables from portfolio companies		1,154	1,174	3,549
Other current receivables		1,419	6,490	5,995
Prepaid expenses and accrued income		2,642	3,177	2,500
Short-term investments		237,706	278,019	277,646
Cash and cash equivalents		18,605	50,337	19,589
<b>Total current assets</b>		<b>261,526</b>	<b>339,197</b>	<b>309,279</b>
<b>TOTAL ASSETS</b>		<b>434,553</b>	<b>715,371</b>	<b>599,807</b>
<b>EQUITY AND LIABILITIES</b>				
<b>Equity</b>				
<b>Restricted equity</b>				
Share capital		26,732	26,692	26,725
<b>Unrestricted equity</b>				
Share premium reserve		1,884,310	1,884,310	1,884,310
Accumulated losses		-1,677,760	-792,819	-793,045
Net profit/loss for the period		-194,410	-759,588	-883,503
<b>Total equity</b>		<b>38,872</b>	<b>358,595</b>	<b>234,487</b>
<b>Long-term liabilities</b>				
Convertible loan	3	383,129	339,194	349,205
Pension obligations		3,864	4,355	4,180
<b>Total long-term liabilities</b>		<b>386,993</b>	<b>343,549</b>	<b>353,385</b>
<b>Current liabilities</b>				
Accounts payable		646	951	1,444
Liabilities to portfolio companies		494	663	513
Other current liabilities		723	993	4,425
Accrued expenses and prepaid income		6,825	10,620	5,553
<b>Total current liabilities</b>		<b>8,688</b>	<b>13,227</b>	<b>11,935</b>
<b>Total liabilities</b>		<b>395,681</b>	<b>356,776</b>	<b>365,320</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>434,553</b>	<b>715,371</b>	<b>599,807</b>

Condensed statement of changes in equity for the Parent Company

SEK 000	Note	Restricted equity	Unrestricted equity			Total equity
		Share capital	Share premium reserve	Accumulated losses	Net profit/loss for the period	
<b>Opening equity at Jan 1 2016</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					-194,410	-194,410
<b>Total</b>		<b>26,725</b>	<b>1,884,310</b>	<b>-1,676,548</b>	<b>-194,410</b>	<b>40,077</b>
Effect of incentive programs				-1,212		-1,212
Share issue	7					7
<b>Closing equity at 30 Sep 2016</b>		<b>26,732</b>	<b>1,884,310</b>	<b>-1,677,760</b>	<b>-194,410</b>	<b>38,872</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					-759,588	-759,588
<b>Total</b>		<b>26,692</b>	<b>1,838,918</b>	<b>-793,362</b>	<b>-759,588</b>	<b>312,660</b>
Convertible loan - equity part			49,528			49,528
Issue costs			-4,136			-4,136
Effect of incentive programs				543		543
<b>Closing equity at 30 Sep 2015</b>		<b>26,692</b>	<b>1,884,310</b>	<b>-792,819</b>	<b>-759,588</b>	<b>358,595</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. Investments are made directly in the portfolio companies and via KDev Investments AB with Corporate Identity Number 556880-1608. 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 as of this reporting period.

#### 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.

#### 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 (SEK 151 million), loans receivable from portfolio companies (SEK 1 million), short-term investments (SEK 238 million), cash and cash equivalents (SEK 19 million), and financial assets less interest-bearing liabilities (SEK 38 million - SEK 388 million) in relation to the number of shares outstanding (53 220 713) on the closing date (30 September 2016).

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 September 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	-	-	150,980	150,980
Loans receivable from portfolio companies	-	951	-	951
Other financial assets	-	-	38,113	38,113
Receivables from portfolio companies	-	1,154	-	1,154
Cash, cash equivalents and short-term investments	256,311	-	-	256,311
<b>Total</b>	<b>256,311</b>	<b>2,105</b>	<b>189,093</b>	<b>447,509</b>
<b>Financial liabilities</b>				
Other financial liabilities	-	-	4,798	4,798
Accounts payable	-	646	-	646
Liabilities to portfolio companies	-	494	-	494
<b>Total</b>	<b>-</b>	<b>1,140</b>	<b>4,798</b>	<b>5,938</b>

### Fair value as of 30 September 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	-	-	351,750	351,750
Other financial assets	-	-	38,113	38,113
Receivables from portfolio companies	-	1,174	-	1,174
Cash, cash equivalents and short-term investments	328,356	-	-	328,356
<b>Total</b>	<b>328,356</b>	<b>1,174</b>	<b>389,863</b>	<b>719,393</b>
<b>Financial liabilities</b>				
Other financial liabilities	-	-	5,439	5,439
Accounts payable	-	951	-	951
Liabilities to portfolio companies	-	663	-	663
<b>Total</b>	<b>-</b>	<b>1,614</b>	<b>5,439</b>	<b>7,053</b>

**Fair value (level 3) as of 30 September 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	23,952	-	-
Disposals	0	-	-
Gains and losses recognized through profit or loss	-140,723	-	-
<b>Closing balance 30 Sep 2016</b>	<b>150,880</b>	<b>38,113</b>	<b>4,798</b>
Total unrealized gains and losses for the period in profit or loss	-140,723	-	-
<b>Gains and losses in profit or loss for the period for assets and liabilities included in the closing balance</b>	<b>-140,723</b>	<b>-</b>	<b>-</b>

**Fair value (level 3) as of 30 September 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)	39,166	-	-
Acquisitions	75,936	-	-
Disposals	-	-	-
Gains and losses recognized through profit or loss	-876,806	-	-6,247
<b>Closing balance 30 Sep 2015</b>	<b>351,750</b>	<b>38,113</b>	<b>5,439</b>
Total unrealized gains and losses for the period in profit or loss	-876,806	-	-6,247
<b>Gains and losses in profit or loss for the period for assets and liabilities included in the closing balance</b>	<b>-876,806</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	2016-09-30	2015-09-30	2015-12-31
Karolinska Development Fair Value	138	121	134
KDev Investments Fair Value	273	601	458
<b>Total Fair Value</b>	<b>411</b>	<b>722</b>	<b>592</b>
Potential distribution to Rosetta Capital of fair value of KDev Investments	260	371	324
<b>Net Fair Value after potential distribution to Rosetta Capital</b>	<b>151</b>	<b>351</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 September 30, 2016 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 September 30, 2016 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 SEK 387 million 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 SEK 586 million (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 Sep 2016	30 Sep 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	73,969	30,034	40,045
Paid interest	-	-	-
<b>TOTAL</b>	<b>383,129</b>	<b>339,194</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 Sep 2016	30 Sep 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%

### 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 and Umecrine Cognition AB.

Karolinska Development's ownership interests in these two portfolio companies are 87% respective 59%. Karolinska Development has entered into shareholder agreements with other shareholders regarding these companies. The shareholder agreements ensure other owners influence. Therefore Karolinska Development is not considered to have controlling interest, even if its ownership interest formally exceeds 50% and it is concluded that in these situations the holdings should be accounted for as investments in joint ventures.

## NOTE 5 Pledged assets

SEK 000	30 Sep 2016	30 Sep 2015	31 Dec 2015
Pledged assets	3,864	4,355	4,180
<b>Total</b>	<b>3,864</b>	<b>4,355</b>	<b>4,180</b>

## NOT 6 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 – September 2016 to SEK 1 million (SEK 0,6 million same period 2015), of which SEK 0,4 million (SEK 0,3 million) during the third quarter 2016.