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## Karolinska Development

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Karolinska Development (Nasdaq Stockholm: KDEV) is an investment company which offers a unique opportunity to share in the growth in value of a number of Nordic life sciences companies with high commercial potential, eight of which have projects in the clinical development or early commercial phase. Clinical phase II results are expected for presentation by five of the portfolio companies' projects in 2018 and 2019, offering the potential for substantially increased opportunities for attractive investments or licensing deals. Comparable candidate drugs have, in recent years, been out-licensed or sold for contract values of between SEK 1.6 and 5.3 billion for the individual projects. The portfolio companies have been strengthened in the past year through the recruitment of senior executives with a documented ability to close international business deals in the life sciences sector.

For further information, see [www.karolinskadevelopment.com](http://www.karolinskadevelopment.com)

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## Financial Update

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### First quarter

- The net profit/loss for the first quarter was SEK -19.7 million (SEK -25.2 million in the first quarter of 2017). Earnings per share totalled SEK -0.3 (SEK -0.5 in the first quarter of 2017).
- The result of the Change in the portfolio fair value amounted to SEK -4.8 million. The decrease was primarily due to the share price development of BioArctic.
- The total fair value of the portfolio was SEK 728.6 million at the end of March 2018, an increase of SEK 14.6 million from SEK 714.0 million at the end of the previous quarter. The net portfolio fair value was at the same time SEK 456.4 million, an increase of SEK 8.5 million from SEK 447.7 at the end of the previous quarter.
- Net sales totalled SEK 0.7 million during the first quarter of 2018 (SEK 0.6 million during the first quarter of 2017).
- Karolinska Development invested a total of SEK 13.4 million in portfolio companies during the first quarter. First quarter investments in the portfolio companies by Karolinska Development and other specialised life sciences investors totalled SEK 18.0 million.
- Cash and cash equivalents decreased by SEK 23.9 million during the first quarter, totalling SEK 145.7 million on 31 March 2017.

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## Significant events during the first quarter

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- Forendo Pharma announced a €3 million loan grant decision by Business Finland, to support the development of a novel drug for endometriosis treatment (March 2018).

- David Colpman was appointed non-executive Board Director of Forendo Pharma. David brings with him a solid career in pharma and biotech business development and strategy. His previous roles include Head of Global Business Development at the Irish biotechnology company Shire (March 2018).
- Modus Therapeutics announced that Dr. John Öhd has been appointed to a position as Chief Medical Officer (CMO). Dr. Öhd has up to today been working at Medivir AB as their CMO and a member of the company's Executive Management team (March 2018).

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## Significant post-period events

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- Asarina Pharma has announced the start of a clinical Phase IIB study with the drug candidate Sepranolone. The study will be conducted in patients with premenstrual dysphoric disorder, the severest form of premenstrual syndrome (April 2018).
- Karolinska Development followed up the partial exit in BioArctic, conducted during the fourth quarter of 2017, and divested the remaining holdings to a total amount of SEK 12.0 million (April 2018).
- Aprea Therapeutics is presenting initial positive results at the 2018 American Association of Cancer Research Annual Meeting in Chicago from its ongoing Phase Ib/II clinical study of APR-246 in patients with myelodysplastic syndrome (April 2018).
- Modus Therapeutics candidate drug sevuparin has been granted rare pediatric disease designation by the US Food & Drug Administration (FDA) for the treatment of children with sickle cell disease (April 2018).

### **Viktor Drvota, CEO of Karolinska Development, comments:**

"The first quarter this year has been quieter from a news perspective, after the intensity of the fourth quarter of 2017. However, this in no way indicates a low level of activity within the portfolio companies: their project development is proceeding as planned and the results of five phase II studies are expected over the coming 12 to 18-month period. Assuming these results are positive, they could form the basis for successful divestments, licensing deals or IPOs."

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## Chief Executive's Report

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### Quiet Q1 from a news perspective in research-intensive year

Karolinska Development is an investment company with a portfolio comprising nine<sup>1</sup> Nordic life science companies, eight of which have projects in the clinical development or early commercial phases. The substantial variation in the flow of news from the portfolio companies between one quarter and the next is completely natural, and the first quarter has been quieter from a news perspective, after the intensity of the fourth quarter of 2017. However, this in no way indicates a low level of activity within the portfolio companies - their project development is proceeding as planned, several important new recruitments have been completed, and Forendo recently announced that it had secured EUR 30 million in financing from Business Finland for the development of a new treatment for the gynaecological disorder, endometriosis.

### Several important clinical results to be expected

Our portfolio companies, Modus Therapeutics, Aprea Therapeutics, Umecrine Cognition and Dilafor are expected to present important clinical results in 2018 and 2019. The statistical probability of the projects in question yielding positive phase II data is between 27 and 50%, depending on therapeutic indication area. If only one or a few of these studies yield positive results, the potential for substantial increases in value for our shareholders is still considerable, in that solid phase II results lay the foundations for successful licensing deals, divestments or IPOs. The reference values for licensing deals and divestments of similar projects range between SEK 1.6 and 5.3 billion.

BioArctic and Xspray were both listed in 2017, thus clearly demonstrating that our portfolio companies have the capacity to create realisable value. A partial exit of BioArctic was completed in the fourth quarter of 2017 which yielded 80 times our initial investment in the company and it was followed up in April 2018 by selling the remaining holdings. These two listings, in addition to the increase in the value of the portfolio company, Umecrine Cognition, account for the majority of the increase of the portfolio value achieved in 2017.

### Two examples of ongoing clinical trials

The successful development work by our portfolio companies is expected to enable the generation of important phase II results in 2018 by, amongst others, Modus Therapeutics and Umecrine Cognition.

**Modus Therapeutics** is expected to present the results of a phase II study of its sevuparin candidate drug for the treatment of the heritable disease, sickle cell anaemia, in the latter half of 2018. People with this disease are at risk of microvascular obstructions, known as Vaso-Occlusive Crises (VOCs), which cause oxygen deprivation and severe pain. There is currently no treatment available for the acute phases of the disease, other than analgesics. Sevuparin is classified as a potential orphan drug in the EU and USA, granting market exclusivity for seven and ten years, respectively.

Karolinska Development owns 72% of Modus through KDev Investments. Two partnership agreements for pharmaceutical projects in the same developmental phase for the treatment of sickle cell anaemia have been signed in recent years with contract values of over SEK 5 billion and almost SEK 3 billion, respectively. The average chance of positive phase II data for projects in this therapeutic indication area is 50%.

**Umecrine Cognition** is conducting two phase II studies of the GR3027 candidate drug. The first of these studies involves patients with hepatic encephalopathy (HE) and associated neuropsychiatric symptoms, and the results are expected in 2018. The second phase II study involves patients with a serious form of sleep disturbances, and the results are expected in 2018 or early 2019. As far as Karolinska Development is aware, no other company has similar treatments in the clinical phase of development.

Karolinska Development owns 72% of Umecrine Cognition. Two licensing deals involving similar pharmaceutical projects were signed in recent years with contract values of over SEK 3 billion and SEK 1.6 billion, respectively. The average probability of positive phase II results for this type of project is 34%.

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<sup>1</sup> After the divestment of the remaining holding in BioArctic in April 2018

### **New recruitments increase commercial focus**

Karolinska Development is an investment company. Our job entails selecting the right investments, monitoring and supporting the companies through active work with the Board of Directors and, ultimately, successfully divesting the investments. What we do not do, however, is to develop portfolio companies' projects, and it is consequently important that the portfolio companies have the right people in place – people with experience of project development and licensing deals in the therapeutic indication areas in question. Karolinska Development's portfolio companies will, therefore, continue strengthening their management groups and Boards.

Modus recruited the former Medivir employee, Dr John Öhd, as their Chief Medical Officer, and David Colpman has been appointed as a new Member of the Board of Forendo. David's CV includes global responsibility for business development at the global pharmaceutical company, Shire, which focuses on treatments for rare diseases.

We maintain ongoing contacts with relevant parties when preparing to divest or list our portfolio companies and have, by means of these recruitments to the portfolio companies' management teams and Boards of Directors, strengthened their commercial and medical expertise ahead of dialogues with major pharmaceutical companies.

Positive proof-of-concept data from our biotech companies' clinical trials and the continued commercial successes of our medtech portfolio companies shows that combining a sound commercial approach with the professional development of innovative life science projects maximises the potential for creating value for our shareholders. Given the five phase II study results anticipated over the coming twelve months, there is no denying that the future looks very exciting indeed.

Solna, 25 April 2018

Viktor Drvota  
Chief Executive Officer

## Portfolio Companies

### A Focused Portfolio with High Commercial Potential

Karolinska Development's investments in therapeutic companies are conducted in syndicates with other professional life science investors until proof-of-concept is demonstrated in Phase II trials, at which point different exit options are evaluated. For medtech companies, the business model is to finance the companies beyond break-even before realizing the investments.

Karolinska Development has a focused portfolio of therapeutic and medtech companies with significant value-generating potential. The portfolio 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.

During the past years, Karolinska Development has optimized the clinical programs of the portfolio companies to reach clinically meaningful value-inflection points in 2018. Experienced leadership has been recruited to the management and boards of the portfolio companies. Furthermore, Karolinska Development has supported the financing of the portfolio companies through syndication with experienced international and domestic professional life science investors. As a result, several of Karolinska Development's portfolio companies now are financed and well positioned to deliver key value-generating clinical or commercial milestones over the next 12-18 months.

The therapeutics companies' next key value-generating milestones are expected in 2018 and 2019, when several of the companies are supposed to present Phase II proof-of-concept data. The medtech companies OssDsign and Promimic are revenue generating and have significant milestones mapped out in 2018/2019 regarding execution of their commercial strategies.

### Our current portfolio - significant value-inflection in 12 – 18 months

Therapeutics	Net ownership*	Preclinical	Phase I	Phase II	Phase III	2 <sup>nd</sup> indication(s) ongoing/planned
	KD 1.5% ** KDev Invest 17%	Ovarian cancer			2019	Platinum-resistant ovarian cancer, Esophageal cancer, Myelodysplastic syndrome
	KDev Invest 72%	Sickle cell disease			2018	At-home setting with subcutaneous injection, Malaria
	KDev Invest 37%	Labor arrest			2018	Labor induction
	KD 72 %	Hepatic encephalopathy			2019	Idiopathic hypersomnia
	KD 14% **	Endometriosis			2018	
	KD 10%**	Pain during intrauterine device placement			2020	Passive investment
	KDev Invest 2.5%	Premenstrual dysphoric disorder			2019	Passive investment
Medtech		Prototype	Development	PMA / 510k	Market	
	KD 25% **	Patient-specific craniofacial implants			Expansion in the EU and the US 2018	
	KDev Invest 32%	Medical implant coatings			Expansion in the EU and the US 2018	

KD: Karolinska Development – KDev Invest: KDev Investments  
\* Fully diluted ownership based on current investment plans  
\*\* Includes indirect holdings through KCIF Co-Investment Fund

Current stage of development → Progress and expected results

### Earn-out agreements

				
Phase III	Phase II	Phase II	Preclinical	Product development



**Project (First-in class)**  
APR-246

**Primary indication**  
Ovarian cancer

**Development Phase**  
Phase IIa

**Holding in company\***  
Karolinska Development  
1.5%\*\*  
KDev Investments 17%

**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)

*\* Fully-diluted ownership based on current investment plans.*

*\*\* Includes indirect holdings through KCIF Co-Investment Fund*

#### Deal values for similar projects

- USD 469 million MEI Pharma (licensor) & Helsinn Group (licensee)
- USD 483 million Calithera Biosciences (licensor) & Incyte (licensee)

## Aprea Therapeutics AB



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

Aprea Therapeutics (Stockholm, Sweden and Boston, US) is a biotech company developing novel anticancer compounds targeting the tumor suppressor protein p53. Mutations of the p53 gene occur in around 50% of all human tumors. These mutations are often associated with resistance to anticancer drugs and poor overall survival, representing a major unmet medical need in the treatment of cancer. Aprea's lead drug candidate APR-246 is a first-in-class compound that reactivates mutant p53 protein, inducing programmed cell death in human cancer cells.

APR-246 is currently in a Phase IIa trial of a combined Phase Ib/IIa clinical study (the PiSARRO study), investigating the drug candidate's safety and efficacy in combination with chemotherapy in second-line treatment of patients with platinum-sensitive high-grade serous ovarian cancer (HGSOC). The Phase Ib component is complete and has established safety, tolerability and pharmacokinetics of APR-246 in combination with standard chemotherapy. The Phase IIa portion of the PiSARRO study will enroll 200 up to 400 relapsed platinum-sensitive HGSOC patients in Europe and the US. 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.

In addition to the ongoing Phase IIa clinical trial in platinum-sensitive HGSOC, Aprea is enrolling three Phase Ib/II studies in myelodysplastic syndrome, platinum-resistant HGSOC and esophageal cancer.

#### The market

The lead target indication for APR-246 is ovarian cancer. As the 6<sup>th</sup> most common cancer in women, over 60,000 new patients are diagnosed worldwide each year. High-grade serous ovarian cancer (HGSOC) accounts for 70-80% of all deaths from ovarian cancer. Over 90% of these patients are Stage III/IV and median survival is less than 4 years. Approximately 60% of ovarian cancer patients, and ≥95% of HGSOC patients, have p53 mutations at diagnosis. Therefore, combination treatment of APR-246 with chemotherapy could provide significant benefit.

#### Recent progress

- First patient enrolled in: Phase Ib/II study in myelodysplastic syndrome (May 2017), Phase Ib/II study in platinum-resistant HGSOC (August 2017) and in Phase Ib/II study in esophageal cancer (October 2017).
- Received the last tranche of SEK 188 million in a financing round of totally SEK 437 million from 2016 (October 2017).
- Positive, initial results from the ongoing Phase Ib/II study in MDS presented at the 2018 American Association of Cancer Research (AACR) Annual Meeting in Chicago (April 2018).

#### Expected milestones

- Complete recruitment into the Phase IIa part of the PiSARRO study in 2018.
- Results of Phase IIa part of PiSARRO study expected in 2019.

**Project (First-in-class)**  
Sevuparin**Primary indication**  
Sickle cell disease (SCD)**Development Phase**  
Phase II**Holding in company\***  
KDev Investments 72%**Other investors**  
The Foundation for Baltic and  
East European Studies,  
Praktikerinvest**Origin**  
Karolinska Institutet, Uppsala  
University**More information**  
 modustx.com*\*Fully-diluted ownership based on  
current investment plans***Deal values for similar  
projects**

- USD 665 million Novartis AG (buyer) & Selexys Pharmaceuticals (seller)
- USD 340 million GlycoMimetics (licensor) & Pfizer (licensee)

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## Modus Therapeutics AB

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### Targeting relief for sickle cell disease patients

Modus Therapeutics (Stockholm, Sweden) is developing sevuparin, an innovative, disease-modifying drug which has the potential to become a first-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.

Modus is conducting a Phase II study of sevuparin in hospitalized SCD patients experiencing VOC, the results of which are expected in 2018. The trial is targeting 160 patients who are 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 co-invests into the 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.

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#### 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.

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#### Recent progress

- Phase I/II data demonstrating anti-adhesive properties of sevuparin published in the scientific journal PLOS ONE (December 2017).
- Dr. John Öhd appointed Chief Medical Officer (March 2018).
- Sevuparin granted Rare Pediatric Disease Designation by the FDA for the treatment of children with SCD (April 2018).

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#### Expected milestones

- Complete recruitment into Phase II proof-of-concept trial in 2018.
- Results from Phase II trial expected in 2018.



**Project (First-in-class)**  
GR3027

**Primary indication**  
Hepatic encephalopathy

**Development Phase**  
Phase IIa

**Holding in company\***  
Karolinska Development 72%

**Other investors**  
Norrlandsfonden,  
Fort Knox förvaring AB,  
PartnerInvest

**Origin**  
Umeå University

**More information**  
 [umecrinecognition.com](http://umecrinecognition.com)

*\* Fully-diluted ownership based on current investment plans.*

#### Deal values for similar projects

- USD 397 million Aerial Biopharma (licensor) & Jazz Pharmaceuticals (licensee)
- USD 201 million Vernalis (licensor) & Corvus Pharmaceuticals (licensee)

## Umecrine Cognition AB



### Unique treatment approach to CNS-related disorders

Umecrine Cognition (Solna, Sweden) is developing a therapy that represents a new target class for several major CNS-related disorders. The lead compound GR3027 is presently in clinical development for hepatic encephalopathy (HE), a serious neuropsychiatric and neurocognitive complication in acute and chronic liver disease (including cirrhosis). The drug candidate is also being clinically evaluated as a new treatment of idiopathic hypersomnia (IH), which is a severe orphan disease characterized by chronic excessive daytime sleepiness despite normal sleep.

An increase in the inhibitory GABA system in the CNS is believed to be a main driver for the clinical signs and symptoms in a wide range of cognitive and sleep disorders, including HE and IH. This makes GABA-receptor modulating steroid antagonists that act on the neurosteroid enhancement of GABA receptor activation, as developed by Umecrine Cognition, a credible therapeutic class to explore.

GR3027 has been shown to restore different types of neurological impairments in experimental models. The drug candidate enters the CNS and reverses the inhibitory effects of the neurosteroid allopregnanolone on brain function in humans. Positive Phase Ib data from the ongoing combined Phase Ib/IIa study in HE shows that GR3027 is well tolerated, does not cause any dose-limiting side effects and has a favorable pharmacokinetic profile. GR3027 has now advanced into the phase IIa part of the study, from which results are expected in 2019. A Phase IIa study in IH is also ongoing, with data readout expected in 2018.

#### The market

HE is a severe disorder with a large unmet need. In total, liver cirrhosis affects up to 1% of US and EU populations. Between 180,000 and 290,000 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.

There are no approved treatments for IH but several wake-promoting agents are used off-label. However, they are inadequate to alleviate symptoms in most patients, and refractory or intolerance symptoms occur in one-quarter of patients.

#### Recent progress

- Positive Phase Ib data for GR3027 presented (September 2017).
- SEK 20 million raised from existing investors to fund a Phase IIa study in IH (October 2017).
- First patient included in clinical Phase IIa study in patients with IH (November 2017).

#### Expected milestones

- Results from the Phase IIa part of the combined Phase Ib/IIa study in HE expected in 2019.
- Results from Phase IIa study in IH expected in 2018.

## Dilafor

**Project (First-in-class)**

Tafoxiparin

**Primary indication**

Labor arrest

**Development Phase**

Phase IIb

**Holding in company\***

KDev Investments 37%

**Other investors**

The Foundation for Baltic and East European Studies,  
Praktikerinvest,  
Rosetta Capital,  
Lee's Pharma

**Origin**

Karolinska Institutet

**More information**

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

\* Fully-diluted ownership based on current investment plans.

**Deal values for similar projects**

- USD 595 million Neurocrine Biosciences (licensor) & AbbVie (licensee)
- USD 465 million Palatin Technologies (licensor) & AMAG Pharmaceuticals (licensee)

## Dilafor AB



### Reducing complications with childbirth

Dilafor (Solna, Sweden) is a drug development company focusing on developing tafoxiparin for obstetric indications. The company's primary goal with tafoxiparin is to decrease the incidence of slow progress of labor both after induction of labor and after spontaneous onset of labor. Tafoxiparin has shown in a Phase II clinical trial encouraging evidence that it can decrease the proportion of women with labor more than 12 hours. A Phase IIb dose-finding study is underway, enrolling 360 pregnant women.

Insufficient, slow progress of labor occurs in at least forty percent of all births and to an even higher degree among first-time mothers. In its most severe form, known as protracted labor, it can last more than 12 hours. Protracted labor is the main cause of emergency surgical deliveries, such as caesarian section. The condition is often associated with complications for both mother and child, which lead to serious short and long-term consequences and substantial health care costs.

The Phase IIb study aims to test tafoxiparin/placebo in addition to standard care (oxytocin infusion) in term-pregnant first-time mothers that, after spontaneous onset of labor, require labor augmentation due to primary slow progress or labor arrest, which carries a high risk of being followed by protracted labor.

Dilafor has a license and partnership agreement with Lee's Pharmaceutical, which have the right to manufacture, develop and commercialize tafoxiparin for obstetrics and gynecological indications in China, Hong Kong, Macau and Taiwan.

#### The market

It has been estimated that as many as 40% of all pregnant women run into complications during childbirth in the form of protracted labor, where pharmaceutical therapy is relevant. This number represents the primary target population for tafoxiparin, which indicate a substantial market potential. Existing pharmacological therapies that improve uterine contractions are usually insufficient, as they are not working well enough in up to 50% of cases. Consequently, there is strong interest in better treatments such as tafoxiparin, which has "first-in-class" potential.

#### Recent progress

- Initiated a Phase IIb dose-finding study with tafoxiparin in Europe (January 2017).

#### Expected milestones

- Complete recruitment into Phase IIb dose-finding trial in 2018.
- Results from Phase IIb trial expected 2018.

**OSSDSIGN®**
**Project**

OSSDSIGN® Cranial and  
OSSDSIGN® Facial

**Primary indication**

Cranial implants

**Development Phase**

Marketed

**Holding in company\***

Karolinska Development 25%\*\*

**Other investors**

SEB Venture Capital,  
Fouriertransform

**Origin**

Karolinska University Hospital,  
Uppsala University

**More information**


ossdsign.com

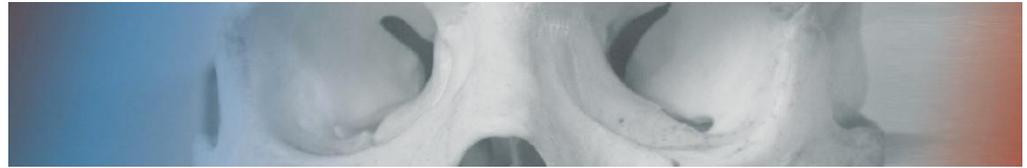
\* Fully-diluted ownership based on  
current investment plans

\*\* Includes indirect holdings through  
KCIF Co-Investment Fund

**Deal values for similar  
projects**

- USD 330 million Baxter International (buyer) & ApaTech (seller)
- USD 360 million Royal DSM (buyer) & Kensey Nash (seller)

## OssDsign AB



### Commercializing the best craniofacial implants

OssDsign (Uppsala, Sweden) is an innovator, designer and manufacturer of implants and material technology for bone regeneration. Its lead products – OSSDSIGN® Cranial and OSSDSIGN® Facial – are already being sold on several European markets including Germany, the UK and the Nordic region, as well as selected non-European markets including Singapore and Israel. The company is commercializing its cranial implant in the US and a US subsidiary has been established to strengthen the market presence. OssDsign is also undertaking regulatory and commercial activities in Japan.

OssDsign's commercial strategy is focused on building sales of its innovative products through a combination of its internal sales organization and distribution partnerships, and the company is well-funded to support this strategy.

OssDsign's personalized bone regeneration technology provides improved healing properties that are clinically proven to enhance patient outcomes. By combining a regenerative ceramic material reinforced with titanium, with tailored patient-specific designs enabled by state-of-the-art computer-aided design, 3D printing and moulding techniques, the technology platform aims to contribute to the permanent healing of a range of bone defects. Enhanced healing means a better implant solution for patients and cost savings for hospitals.

#### The market

OssDsign is focusing on the market for craniomaxillofacial (CMF) implants. The total market size was estimated to USD 1,8 billion in 2016 and is expected to grow at an CAGR of 5-9% worldwide over the five next years. The market for OssDsign's lead product in cranioplasty alone is estimated to approximately USD 200 million. 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 easy to access on many markets from a regulatory perspective.

#### Recent progress

- Launch of OSSDSIGN® Cranial in the US (April 2017).
- US subsidiary established (January 2018)

#### Expected milestones

- Launch of OSSDSIGN® Cranial and OSSDSIGN® Facial on new EU markets and selected markets outside of Europe during 2018.


**Project**

 HA<sup>nano</sup> Surface

**Primary indication**

Implant surface coatings

**Development Phase**

Marketed

**Holding in company\***

KDev Investments 32%

**Other investors**

 ALMI Invest,  
K-Svets Ventures,  
Chalmers Ventures

**Origin**

 Chalmers University of  
Technology

**More information**
 promimic.com

*\*Fully-diluted ownership based on  
current investment plans*

**Deal values for similar  
projects**

- USD 95 million Nobel Biocare (buyer) & AlphaBioTec (seller)
- USD 120 million MAKO surgical (buyer) & Pipeline Biomedical (seller)

## Promimic AB



### Coatings to enhance the properties of medical implants

Promimic (Gothenburg, Sweden) is a biomaterials company that develops and markets a unique coating for medical implants called HA<sup>nano</sup> Surface, which increases their integration into bone and anchoring strength.

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. The coating is unique because it can be applied to any implant geometry and material, including porous materials and 3D structures. Furthermore, the HA<sup>nano</sup> coating technology offers a fast way to market since the technology that the coating is based on has been approved by FDA, whereby a new implant coated with HA<sup>nano</sup> Surface can receive marketing approval through the 510(k) route. The coating process is easy to implement in the industrial scale production of implants.

Promimic has established a sales operation in the US and a series of development and commercial partnerships, including with Sistema de Implante Nacional (S.I.N), a leading provider of dental implants in Brazil. S.I.N. is presently preparing a US launch of dental implants coated with HA<sup>nano</sup> Surface, which has been cleared for use by the FDA. A manufacturing facility for HA<sup>nano</sup> coated implants to supply the US and Chinese markets has also been established by the Promimic's partner, Danco Anodizing.

#### The market

Promimic is focusing on the markets for dental and orthopedic implants, which collectively represents a worldwide market opportunity of USD 600 - 800 million. 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 four-to-eight 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

- 510(k) clearance granted by US FDA to market dental implants coated with Ha<sup>nano</sup> Surface (December 2017).

#### Expected milestones

- Further product launches and license agreements with major manufacturers during 2018.

## Financial Development

The following financial reporting is divided into one financial reporting for The Parent Company and one for The Investment Entity. The Parent Company and The Investment Entity are the same legal entity, but the reporting is divided in order to meet legal reporting requirements.

The Parent Company is reporting in accordance with the guidelines under the Swedish Annual Accounting Act and Swedish Financial Accounting Standards Council, RFR 2. The Investment Entity is required to meet the reporting requirements of listed companies and thus in accordance with IFRS adopted by the EU and the Swedish Annual Accounts Act

Amounts with brackets refer to the corresponding period previous year unless otherwise stated.

### Financial development in summary for the Investment Entity

SEKm	2018 Jan-Mar	2017 Jan-Mar	2017 Full-year
<b>Condensed income statement</b>			
Change in fair value of shares in portfolio companies	-4.8	-5.7	252.1
Net profit/loss	-19.7	-25.2	179.6
<b>Balance sheet information</b>			
Cash, cash equivalents and short-term investments	145.7	211.3	169.6
<b>Share information</b>			
Earnings per share, weighted average before dilution (SEK)	-0.3	-0.5	2.9
Earnings per share, weighted average after dilution (SEK)	-0.3	-0.5	2.9
Net asset value per share (SEK) (Note 1)	4.0	1.3	4.3
Equity per share (SEK) (Note 1)	3.9	1.2	4.2
Share price, last trading day in the reporting period (SEK)	5.0	5.6	5.8
<b>Portfolio information</b>			
Investments in portfolio companies	13.4	28.9	91.9
Of which investments not affecting cash flow	2.0	0.7	4.6
Portfolio companies at fair value through profit or loss	456.4	172.6	447.8

### Financial Development for the Investment Entity in 2018

#### *Investments (comparable numbers 2017)*

Investments in the portfolio in the first quarter 2018 by external investors and Karolinska Development amounted to SEK 18.0 (82.0) million, whereof 25% (65%) by external investors.

Karolinska Development invested SEK 13.4 (28.9) million, of which SEK 11.4 (28.2) million was cash investments in Modus Therapeutics and SEK 2.0 (0.7) million was non-cash investments (accrued interest on loans). Investments by external investors amounted to SEK 4.6 (53.1) million and were also made in Modus Therapeutics.

### **Portfolio Fair Value**

Fair Value of the portfolio companies owned directly by Karolinska Development increased by SEK 0.2 million during the first quarter 2018. Fair value increased as a result of accrued interest on loans to portfolio companies and exchange rate adjustments on the investment in Forendo Pharma but decreased as a result of a decline in the listed holding in BioArctic due to a lower share price at the end of the first quarter.

Fair Value of the portfolio companies owned indirectly via KDev Investments increased by SEK 14.4 million during the first quarter 2018. The investment in Modus Therapeutics positively affected Fair Value and that the holding in Asarina Pharma was assigned a fair value based on positive development during the quarter.

Total Fair Value from portfolio companies owned directly by Karolinska Development and indirectly via KDev Investments increased by SEK 14.6 million in the first quarter 2018.

As a consequence of the increase in Fair Value of the part of the portfolio owned via KDev Investments, the potential distribution to Rosetta Capital increased by SEK 6.0 million, resulting in Net Portfolio Fair Value increasing by SEK 8.5 million in the first quarter 2018.

<b>SEKm</b>	<b>2018-03-31</b>	<b>2017-12-31</b>	<b>Q1 2018 vs Q4 2017</b>
Karolinska Development Portfolio Fair Value (unlisted companies)	416.6	413.8	2.7
Karolinska Development Portfolio Fair Value (listed companies)	11.6	14.1	-2.5
KDev Investments Portfolio Fair Value (unlisted companies)	300.5	286.1	14.4
<b>Total Portfolio Fair Value</b>	<b>728.6</b>	<b>714.0</b>	<b>14.6</b>
Potential distribution to Rosetta Capital of fair value of KDev Investments	272.2	266.2	6.0
<b>Net Portfolio Fair Value</b> (after potential distribution to Rosetta Capital)	<b>456.4</b>	<b>447.7</b>	<b>8.5</b>

Total Portfolio Fair Value on 31 March 2018 amounted to SEK 728.6 million and the potential distribution to Rosetta Capital amounted to SEK 272.2 million. Net Portfolio Fair Value on 31 March 2018 amounted to SEK 456.4 million.

### **Results first quarter 2018 (comparable numbers 2017)**

During the first quarter 2018, Karolinska Development's revenue amounted to SEK 0.7 (0.6) million and consists primarily of services provided to portfolio companies.

During the first quarter 2018 other expenses amounted to SEK 4.1 (2.5) and personnel costs amounted to SEK 5.4 (5.7) million.

Change in fair value of shares in portfolio companies of in total SEK -4.8 (-5.7) million includes the difference between the increase in Net Portfolio Fair Value during the first quarter 2018 with SEK 8.6 million and investments in the portfolio companies of SEK 13.4 million. Change in fair value of other financial assets amounted to SEK 4.2 (0.0) million and is the consequence of the valuation of a royalty receivable.

The operating profit/loss in the first quarter amounted to SEK -9.4 million compared to SEK -13.3 million first quarter 2017.

Financial net decreased during the first quarter 2018 compared to the first quarter 2017 and amounted to SEK 10.3 (11.9) million, which is the consequence of higher interest income from loans to portfolio companies.

The Investment Entity's Net profit/loss amounted to SEK -19.7 (-25.2) million in the first quarter 2018.

### **Financial position**

The Investment Entity's equity amounted to SEK 247.4 million on 31 March 2018 compared to SEK 267.1 million on 31 December 2017. The decrease was a consequence of the Net profit/Loss of SEK -19.7 million for the first quarter 2018. The Investment Entity's equity to total assets ratio amounted to 38% on 31 March 2017 compared to 40% on 31 December 2017.

After paying operational costs and investments in the first quarter 2018, cash and cash equivalents together with short-term investments, amounted to SEK 145.7 million on 31 March 2018.

## Financial Development – Parent Company

*The Parent Company refers to Karolinska Development AB (comparable numbers first quarter 2017).*

During the first quarter 2018, the Parent Company's Net profit/loss amounted to SEK -19.7 million (SEK -26.0 million).

Due to the negative result for the first quarter 2018, the equity decreased from SEK 267.1 million 31 December 2017 to SEK 247.4 million 31 March 2018.

## Shares

### **The share and share capital**

Trade in the Karolinska Development share takes place on Nasdaq Stockholm under the ticker symbol "KDEV". The last price paid for the listed B share on 29 March 2018 was SEK 5.04, and the market capitalization amounted to SEK 324 million.

The share capital of Karolinska Development on 31 March 2018 amounted to SEK 0.6 million divided into 1,503,098 A shares, each with ten votes (15,030,980 votes) and 62,858,108 B shares, each with one vote (62,858,108 votes). The total number of shares and votes in Karolinska Development on 31 March 2018 amounted to 64,361,206 shares and 77,889,088 votes.

### **Ownership**

On March 31, 2018, Karolinska Development had 3,815 shareholders

<b>Shareholder</b>	<b>A-Shares</b>	<b>B-Shares</b>	<b>Cap %</b>	<b>Vote %</b>
KAROLINSKA INSTITUTET HOLDING AB	1,503,098	2,126,902	5.64%	22.03%
TREDJE AP-FONDEN	0	7,685,785	11.94%	9.87%
SINO BIOPHARMACEUTICAL LIMITED	0	4,853,141	7.54%	6.23%
ÖSTERSJÖSTIFTELSEN	0	3,889,166	6.04%	4.99%
COASTAL INVESTMENT MANAGEMENT LLC	0	3,470,466	5.39%	4.46%
OTK HOLDING A/S	0	2,300,000	3.57%	2.95%
RIBBSKOTTET AB	0	1,400,000	2.18%	1.80%
STIFT FÖR FRÅMJANDE&UTVECKLING AV	0	1,397,354	2.17%	1.79%
FÖRSÄKRINGSAKTIEBOLAGET AVANZA PENSION	0	1,328,638	2.06%	1.71%
FRIHEDEN INVEST A/S	0	1,000,000	1.55%	1.28%
<b>Sum Top 10 Shareholders</b>	<b>1,503,098</b>	<b>29,451,452</b>	<b>48.10%</b>	<b>57.11%</b>
<b>Sum Other Shareholders</b>	<b>0</b>	<b>33,406,656</b>	<b>51.90%</b>	<b>42.89%</b>
<b>Sum All Shareholders</b>	<b>1,503,098</b>	<b>62,858,108</b>	<b>100.00%</b>	<b>100.00%</b>

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## Information on Risks and Uncertainties

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### Investment Entity and Parent Company

#### Financial risks

No new risk areas have been identified since 31 December 2017. For a detailed description of risks and uncertainties, see the annual report 2017.

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

Solna, 25 April 2018

Viktor Drvota  
CEO

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## Dates for Publication of Financial Information

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Annual General Meeting 2018	26 April 2018
Interim Report January-June 2018	16 August 2018
Interim Report January-September 2018	31 October 2018

Karolinska Development is required by law to publish the information in this interim report. The information was published on 25 April 2018.

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

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

## Financial Statements

### Condensed income statement for the Investment Entity

SEK 000	Note	2018 Jan-Mar	2017 Jan-Mar	2017 Full-year
Revenue		734	616	2,464
Change in fair value of shares in portfolio companies	2	-4,809	-5,725	252,072
Change in fair value of other financial assets		4,195	-	2,483
Other expenses		-4,079	-2,465	-12,996
Personnel costs		-5,442	-5,712	-23,513
<b>Operating profit/loss</b>		<b>-9,401</b>	<b>-13,286</b>	<b>220,510</b>
Financial net		-10,324	-11,903	-40,915
<b>Profit/loss before tax</b>		<b>-19,725</b>	<b>-25,189</b>	<b>179,595</b>
Taxes		-	-	-
<b>NET PROFIT/LOSS FOR THE PERIOD</b>		<b>-19,725</b>	<b>-25,189</b>	<b>179,595</b>

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

SEK 000	Note	2018 Jan-Mar	2017 Jan-Mar	2017 Full-year
Net/profit loss for the period		-19,725	-25,189	179,595
<b>Total comprehensive income/loss for the period</b>		<b>-19,725</b>	<b>-25,189</b>	<b>179,595</b>

### Earnings per share for the Investment Entity

SEK	Note	2018 Jan-Mar	2017 Jan-Mar	2017 Full-year
Earnings per share, weighted average before dilution		-0.31	-0.47	2.93
Number of shares, weighted average before dilution		64,116,921	53,220,713	61,243,234
Earnings per share, weighted average after dilution		-0.31	-0.47	2.93
Number of shares, weighted average after dilution		64,116,921	53,220,713	61,300,516

**Condensed balance sheet for the Investment Entity**

SEK 000	Note	31 Mar 2018	31 Mar 2017	31 Dec 2017
<b>ASSETS</b>				
<b>Financial assets</b>				
Shares in portfolio companies at fair value through profit or loss	2	456,423	172,628	447,783
Loans receivable from portfolio companies		3,480	955	3,436
Other financial assets		44,791	38,113	40,596
<b>Total non-current assets</b>		<b>504,694</b>	<b>211,696</b>	<b>491,815</b>
<b>Current assets</b>				
Receivables from portfolio companies		744	341	611
Other current receivables		645	309	531
Prepaid expenses and accrued income		852	757	666
Short-term investments, at fair value through profit or loss		140,242	197,499	150,329
Cash and cash equivalents		5,475	13,819	19,305
<b>Total current assets</b>		<b>147,958</b>	<b>212,725</b>	<b>171,442</b>
<b>TOTAL ASSETS</b>		<b>652,652</b>	<b>424,421</b>	<b>663,257</b>
<b>EQUITY AND LIABILITIES</b>				
<b>Total equity</b>		<b>247,396</b>	<b>62,803</b>	<b>267,121</b>
<b>Long-term liabilities</b>				
Convertible loan	3	391,463	346,676	379,184
Other financial liabilities		4,807	4,807	4,807
<b>Total long-term liabilities</b>		<b>396,270</b>	<b>351,483</b>	<b>383,991</b>
<b>Current liabilities</b>				
Accounts payable		1,256	1,542	1,155
Other current liabilities		1,344	1,524	1,627
Accrued expenses and prepaid income		6,386	7,069	9,363
<b>Total current liabilities</b>		<b>8,986</b>	<b>10,135</b>	<b>12,145</b>
<b>Total liabilities</b>		<b>405,256</b>	<b>361,618</b>	<b>396,136</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>652,652</b>	<b>424,421</b>	<b>663,257</b>

**Condensed statement of changes in the Investment Entity's equity**

SEK 000	Not	2018-03-31	2017-03-31	2017-12-31
<b>Opening balance, equity</b>		<b>267,121</b>	<b>29,815</b>	<b>29,815</b>
Net profit/ loss for the period		-19,725	-25,189	179,595
Effect of incentive programs		-	250	-15
Set-off issue <sup>2</sup>		-	57,927	57,713
Share issue		-	-	13
<b>Closing balance, equity</b>		<b>247,396</b>	<b>62,803</b>	<b>267,121</b>

**Condensed statement of cash flows for the Investment Entity**

SEK 000	Note	2018 Jan-Mar	2017 Jan-Mar
<b>Operating activities</b>			
Operating profit/loss		-9,401	-13,286
<b>Adjustments for items not affecting cash flow</b>			
Change in fair value	2	614	5,725
Other items		-	329
Proceeds from short-term investments		-16	-
Interest paid/received		-	-10
<b>Cash flow from operating activities before changes in working capital and operating investments</b>		<b>-8,803</b>	<b>-7,242</b>
<b>Cash flow from changes in working capital</b>			
Increase (-)/Decrease (+) in operating receivables		-407	-597
Increase (+)/Decrease (-) in operating liabilities		-3,159	866
<b>Operating investments</b>			
Acquisitions of shares in portfolio companies		-11,448	-27,047
Proceeds from sale of short-term investments <sup>1</sup>		9,987	39,647
Investments in short-term investments <sup>1</sup>		-	-
<b>Cash flow from operating activities</b>		<b>-13,830</b>	<b>5,627</b>
<b>Financing activities</b>			
Convertible debentures issue		-	-2,410
<b>Cash flow from financing activities</b>		<b>0</b>	<b>-2,410</b>
<b>Cash flow for the period</b>		<b>-13,830</b>	<b>3,217</b>
Cash and cash equivalents at the beginning of the year		19,305	10,602
<b>CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD</b>		<b>5,475</b>	<b>13,819</b>
<b>Supplemental disclosure<sup>1</sup></b>			
<b>CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD</b>		<b>5,475</b>	<b>13,819</b>
Short-term investments, market value at closing date		140,242	197,499
<b>CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS AT THE END OF THE PERIOD</b>		<b>145,717</b>	<b>211,318</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	2018 Jan-Mar	2017 Jan-Mar	2017 Full-year
Revenue		734	616	2,464
Change in fair value of shares in portfolio companies		-4,809	-5,725	252,072
Change in fair value of other financial assets		4,195	-	2,483
Other expenses		-4,079	-2,465	-12,996
Personnel costs		-5,442	-5,712	-23,513
<b>Operating profit/loss</b>		<b>-9,401</b>	<b>-13,286</b>	<b>220,510</b>
Financial net		-10,324	-11,903	-40,915
<b>Profit/loss before tax</b>		<b>-19,725</b>	<b>-25,189</b>	<b>179,595</b>
Tax		-	-	-
<b>NET PROFIT/LOSS FOR THE PERIOD</b>		<b>-19,725</b>	<b>-25,189</b>	<b>179,595</b>

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

SEK 000	Note	2018 Jan-Mar	2017 Jan-Mar	2017 Full-year
Net profit/loss for the period		-19,725	-25,189	179,595
<b>Total comprehensive income/loss for the period</b>		<b>-19,725</b>	<b>-25,189</b>	<b>179,595</b>

**Condensed balance sheet for the Parent Company**

SEK 000	Note	31 Mar 2018	31 Mar 2017	31 Dec 2017
<b>ASSETS</b>				
<b>Financial assets</b>				
Shares in portfolio companies at fair value through profit or loss	2	456,423	172,628	447,783
Loans receivable from portfolio companies		3,480	955	3,436
Other financial assets		44,791	38,113	40,596
<b>Total non-current assets</b>		<b>504,694</b>	<b>211,696</b>	<b>491,815</b>
<b>Current assets</b>				
Receivables from portfolio companies		744	341	611
Other current receivables		645	309	531
Prepaid expenses and accrued income		852	757	666
Short-term investments at fair value through profit or loss		140,242	197,499	150,329
Cash and cash equivalents		5,475	13,819	19,305
<b>Total current assets</b>		<b>147,958</b>	<b>212,725</b>	<b>171,442</b>
<b>TOTAL ASSETS</b>		<b>652,652</b>	<b>424,421</b>	<b>663,257</b>
<b>EQUITY AND LIABILITIES</b>				
<b>Total equity</b>		<b>247,396</b>	<b>62,803</b>	<b>267,121</b>
<b>Long-term liabilities</b>				
Convertible loan	3	391,463	346,676	379,184
Other financial liabilities		4,807	4,807	4,807
<b>Total long-term liabilities</b>		<b>396,270</b>	<b>351,483</b>	<b>383,991</b>
<b>Current liabilities</b>				
Accounts payable		1,256	1,542	1,155
Other current liabilities		1,344	1,524	1,627
Accrued expenses and prepaid income		6,386	7,069	9,363
<b>Total current liabilities</b>		<b>8,986</b>	<b>10,135</b>	<b>12,145</b>
<b>Total liabilities</b>		<b>405,256</b>	<b>361,618</b>	<b>396,136</b>
<b>TOTAL EQUITY AND LIABILITIES</b>		<b>652,652</b>	<b>424,421</b>	<b>663,257</b>

**Condensed statement of changes in equity for the Parent Company**

SEK 000	Note	31 Mar 2018	31 Mar 2017	31 Dec 2017
<b>Opening balance, equity</b>		<b>267,121</b>	<b>29,815</b>	<b>29,815</b>
Net profit/ loss for the period		-19,725	-25,189	179,595
Effect of incentive programs		-	250	-15
Set-off issue <sup>1</sup>		-	57,927	57,713
Share issue		-	-	13
<b>Closing balance, equity</b>		<b>247,396</b>	<b>62,803</b>	<b>267,121</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") is a Nordic life sciences investment company. The Company, with Corporate Identity Number 556707-5048, is a limited liability company with its registered office in Solna, Sweden. The Company focuses on identifying medical innovations 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. Investments are made in companies 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.

#### Changes in accounting principles 2017

No changes in accounting principles has been made for the Investment Company or the parent company during first quarter 2018.

#### New and revised accounting principles 2018

No new or revised IFRS standards or recommendations from IFRS Interpretations Committee has had impact on the Investment Entity. The implementation of *IFRS 9 Financial* and *IFRS 15 Revenue from Contracts with Customers* did not have any influence on the financial reporting compared to the current reporting.

#### Definitions

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

**Equity to total assets ratio:** Equity divided by total assets.

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

**Reporting period:** January – March 2018.

#### Alternative Performance Measures

The Company presents certain financial measures in the year-end report that are not defined under IFRS. The Company believes that these measures provide useful supplemental information to investors and the company's management as they allow for the evaluation of the company's performance. Because not all companies calculate the financial measures in the same way, these are not always comparable to measures used by other companies. Therefore, these financial measures should not be considered as substitutes for measures as defined under IFRS.

**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.

The Portfolio Fair Value is divided into Total Portfolio Fair Value and Net Portfolio Fair Value.

**Total Portfolio Fair Value:** 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.

**Net Portfolio 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 (calculated as Total Portfolio Fair Value minus Potential Distribution to Rosetta Capital).

**Net asset value per share:** Net Portfolio Fair Value of the total portfolio (SEK 456.4 million), loans receivable from portfolio companies (SEK 3.5 million), short-term investments (SEK 140.2 million), cash and cash equivalents (SEK 5.5 million), and financial assets less interest-bearing liabilities (SEK 40.0 million minus SEK 391.5 million), in relation to the number of shares outstanding (64 116 921) on the closing date (31 March 2018).

## NOTE 2 Fair value

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 31 March 2018

SEK 000	Level 1	Level 2	Level 3	Total
<b>Financial assets</b>				
Shares in portfolio companies, at fair value through profit or loss	11,592	-	444,831	456,423
Loans receivable from portfolio companies	-	3,480	-	3,480
Other financial assets	-	-	44,791	44,791
Receivables from portfolio companies	-	744	-	744
Cash, cash equivalents and short-term investments	145,717	-	-	145,717
<b>Total</b>	<b>157,309</b>	<b>4,224</b>	<b>489,622</b>	<b>651,155</b>
<b>Financial liabilities</b>				
Other financial liabilities	-	-	4,807	4,807
Accounts payable	-	1,256	-	1,256
<b>Total</b>	<b>-</b>	<b>1,256</b>	<b>4,807</b>	<b>6,063</b>

### Fair value as of 31 March 2017

SEK 000	Level 1	Level 2	Level 3	Total
<b>Financial assets</b>				
Shares in portfolio companies, at fair value through profit or loss	-	-	172,628	172,628
Loans receivable from portfolio companies	-	955	-	955
Other financial assets	-	-	38,113	38,113
Receivables from portfolio companies	-	341	-	341
Cash, cash equivalents and short-term investments	211,318	-	-	211,318
<b>Total</b>	<b>211,318</b>	<b>1,296</b>	<b>210,741</b>	<b>423,355</b>
<b>Financial liabilities</b>				
Other financial liabilities	-	-	4,807	4,807
Accounts payable	-	1,542	-	1,542
<b>Total</b>	<b>-</b>	<b>1,542</b>	<b>4,807</b>	<b>6,349</b>

**Fair value (level 3) as of 31 March 2018**

<b>SEK 000</b>	<b>Shares in portfolio companies</b>	<b>Other financial assets</b>	<b>Other financial liabilities</b>
At beginning of the year	433,700	40,596	4,807
Acquisitions	13,449	-	-
Gains and losses recognized through profit or loss	-2,318	4,195	-
<b>Closing balance 31 Dec 2017</b>	<b>444,831</b>	<b>44,791</b>	<b>4,807</b>
Realized gains and losses for the period included in profit or loss	59	-	-
Unrealized gains and losses in profit or loss for the period included in profit or loss	-2,377	4,195	-

**Fair value (level 3) as of 31 March 2017**

<b>SEK 000</b>	<b>Shares in portfolio companies</b>	<b>Other financial assets</b>	<b>Other financial liabilities</b>
At beginning of the year	149,408	38,113	4,798
Acquisitions	28,917	-	-
Gains and losses recognized through profit or loss	-5,725	-	9
<b>Closing balance 31 Dec 2016</b>	<b>172,600</b>	<b>38,113</b>	<b>4,807</b>
Realized gains and losses for the period included in profit or loss	-115	-	-
Unrealized gains and losses in profit or loss for the period included in profit or loss	-5,610	0	-9

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 Portfolio Fair Value

In the table below, "Total Portfolio Fair Value" is as defined in Note 1.

### Impact on Portfolio Fair Value of the agreement with Rosetta Capital

"Potential distribution to Rosetta Capital", SEK 272.2 million, 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 36.5 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, then Rosetta Capital may require within 60 days, as of 7 March 2018, 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 first quarter 2018 being SEK 324 million the price payable for the KDev Investments shares is capped at SEK 32.4 million. Rosetta Capital has not exercised the option at the date of the publication of this quarterly report on 25 April 2018.

"Net Portfolio Fair Value (after potential distribution to Rosetta Capital)" is as defined in Note 1.

### Expanded Portfolio Fair Value calculations taking the portfolio valuation and potential distribution to Rosetta Capital in consideration

SEK 000	31 Mar 2018	31 Mar 2017	31 Dec 2017
Karolinska Development Portfolio Fair Value (unlisted companies)	416,579	162,557	413,844
Karolinska Development Portfolio Fair Value (listed companies)	11,592	-	14,083
KDev Investments Portfolio Fair Value (unlisted companies)	300,456	269,101	286,070
<b>Total Portfolio Fair Value</b>	<b>728,627</b>	<b>431,658</b>	<b>713,997</b>
Potential distribution to Rosetta Capital of fair value of KDev Investments	272,204	259,030	266,214
<b>Net Portfolio Fair Value</b> (after potential distribution to Rosetta Capital)	<b>456,423</b>	<b>172,628</b>	<b>447,783</b>

\* SEK 36.5 million repayment of investments in KDev Investments made by Rosetta Capital and SEK 235.7 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 and if the companies recently have met significant milestones. If there is no valuation available based a recently refinancing or other third-party valuation and there is no valuation available based on a similar transaction, discounted cash flow models (DCF) may be used.

For detailed description, see the annual report 2017.

### 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.

Karolinska Development 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 nominal amount was reduced to SEK 329 million after the set-off issue in March 2017. The convertible debentures will fall due for payment on 31 December 2019 at the amount of SEK 484 million (as accrued interest is interest bearing), the convertibles grant a right at any time 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.

<b>SEK 000</b>	<b>31 Mar 2018</b>	<b>31 Mar 2017</b>	<b>31 Dec 2017</b>
Nominal amount of convertible debentures issued on 2 January 2015	329,244	386,859	386,859
Issue costs	-23,982	-28,171	-28,171
Equity portion	-42,164	-49,528	-49,528
<b>Debt at issuance date 2 January 2015</b>	<b>263,098</b>	<b>309,160</b>	<b>309,160</b>
Accrued interest costs	116,085	96,152	128,766
<b>TOTAL</b>	<b>379,183</b>	<b>405,312</b>	<b>437,926</b>
<b>Set-off share issue 2017</b>			
Converted nominal amount	-	-57,509	-57,522
Converted part of issue costs	-	4,188	4,189
Converted part of equity portion	-	7,362	7,364
Converted part of accrued interest costs	-	-12,677	-12,680
Redemption of convertible	-	-	-93
<b>Debt prior this year's interest</b>	<b>379,183</b>	<b>346,676</b>	<b>379,184</b>
Accrued interest costs 2017	12,280	-	-
<b>Total</b>	<b>391,463</b>	<b>346,676</b>	<b>379,184</b>