Biotech insights by Dr. Jan De Kerpel

- 29 September 2018
- Strictly confidential

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Background

Jan De Kerpel, PhD, MBA
Managing Director Corporate Finance

- Joined Kempen in 2016
- Previously, nine years as Senior Equity Analyst Biotech / Pharma at KBC Securities
- Instrumental in raising >€3bn growth financing in the EU and US
- Six years as R&D Director at DevGen (Syngenta)
- Two years as Senior Scientist at Tibotec-Virco (Johnson & Johnson)
- MBA from Vlerick Business School
- PhD in science at KU Leuven

Kempen is an investment banking boutique with an international sector-focused approach

Subsidiary of Van Lanschot Kempen (VLK:NA), a Dutch private wealth manager
Founded in 1903, c.500 employees

	Kempen Investment Bank					Kempen Capital Management
Clients	Corporate Finance: *Corporates*		Securities: *Institutional investors*			KCM: *Institutional investors & HNWIs*
	Mergers & Acquisitions	Debt Advisory	Equity Capital Markets	Sales & Trading	Equity Research	Asset Management (€50bn AuM)
Location	Amsterdam		Amsterdam, Antwerp, London, New York			Amsterdam, London, Edinburgh, Paris
Sector focus	Life Sciences & Healthcare Financial Institutions & FinTech European Real Estate Benelux Corporates					High Dividend Equities Small-caps Hedge Fund Solutions Sustainable Value Creation Fundamental Indexing Government Bonds

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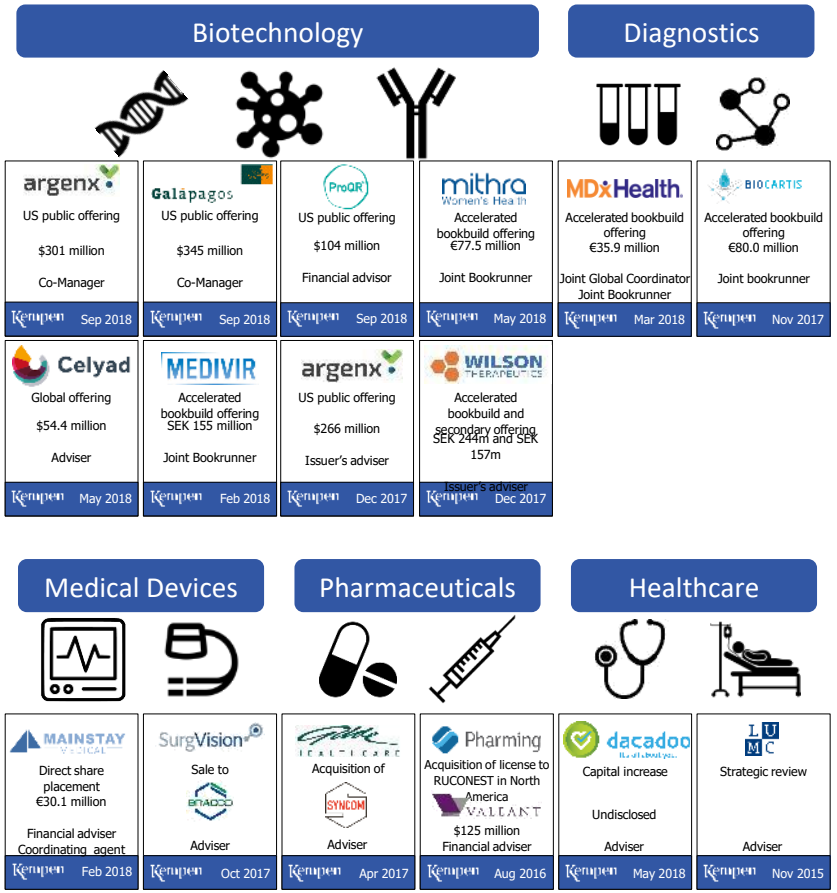
VAN LANSCHOT KEMPEN

Life Sciences & Healthcare is a key focus sector of Kempen

A Life Sciences investment banking specialist

- Successfully executed over 110 Life Sciences transactions since its inception in 2005
- Combining industrial, financial and scientific work experience (dedicated team with PhDs and MScs in science and finance)
- Providing access to a global network of specialist and generalist investors with a significant US footprint
- Offering support from start to finish in any M&A and ECM transaction, ensuring a smooth process with maximum results
- Has one of the largest dedicated Life Sciences equity research teams in Europe

With a strong track record in all Life Sciences industries



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Kempen has one of the largest Life Sciences research teams in Europe covering 29 Life Sciences companies

Suzanne van Voorthuizen
Co-Head Life Sciences Research

Alexandru Cogut
Co-Head Life Sciences Research

Anastasia Karpova
Analyst

Ingrid Gafanhão
Analyst

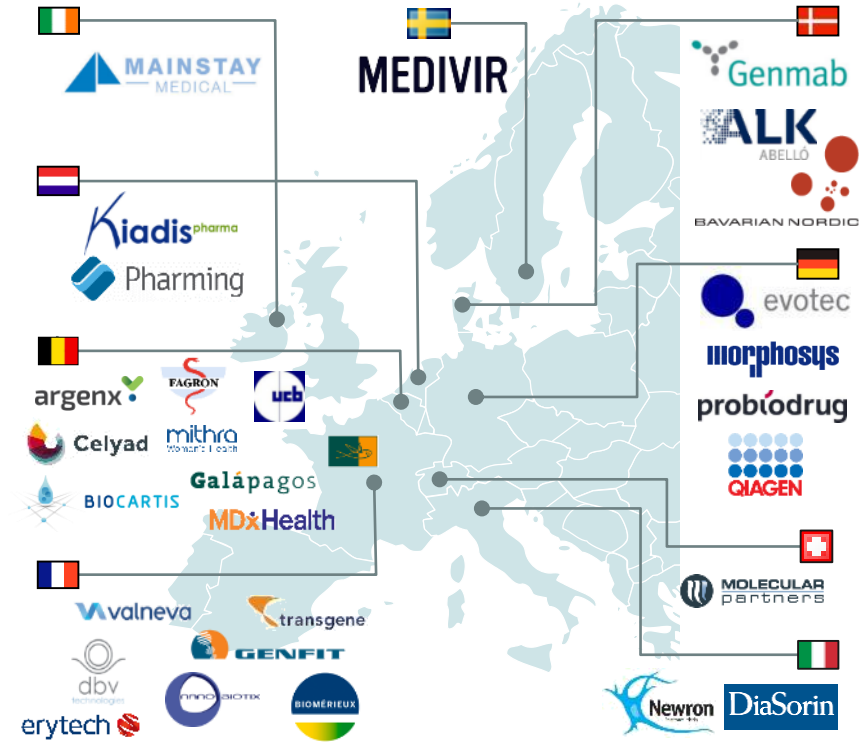
Kempen Life Sciences Research is distributed to over 500 LS specialist and generalist investors in Europe and t[illegible]

Bart Delbaere
Specialist Sales

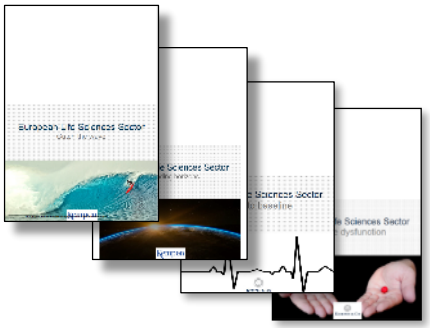
Max Wrobel
Specialist Sales

Anne van Lint
US Specialist Sales

The broadest small/midcap coverage in the sector



Semi-annual research guide…



…as well as morning notes, research reports and the Life Sciences monthly ECM newsletter

Kempen life investor sciences survey 2018

Annual Investor Survey amongst institutional specialists and generalists on the sector

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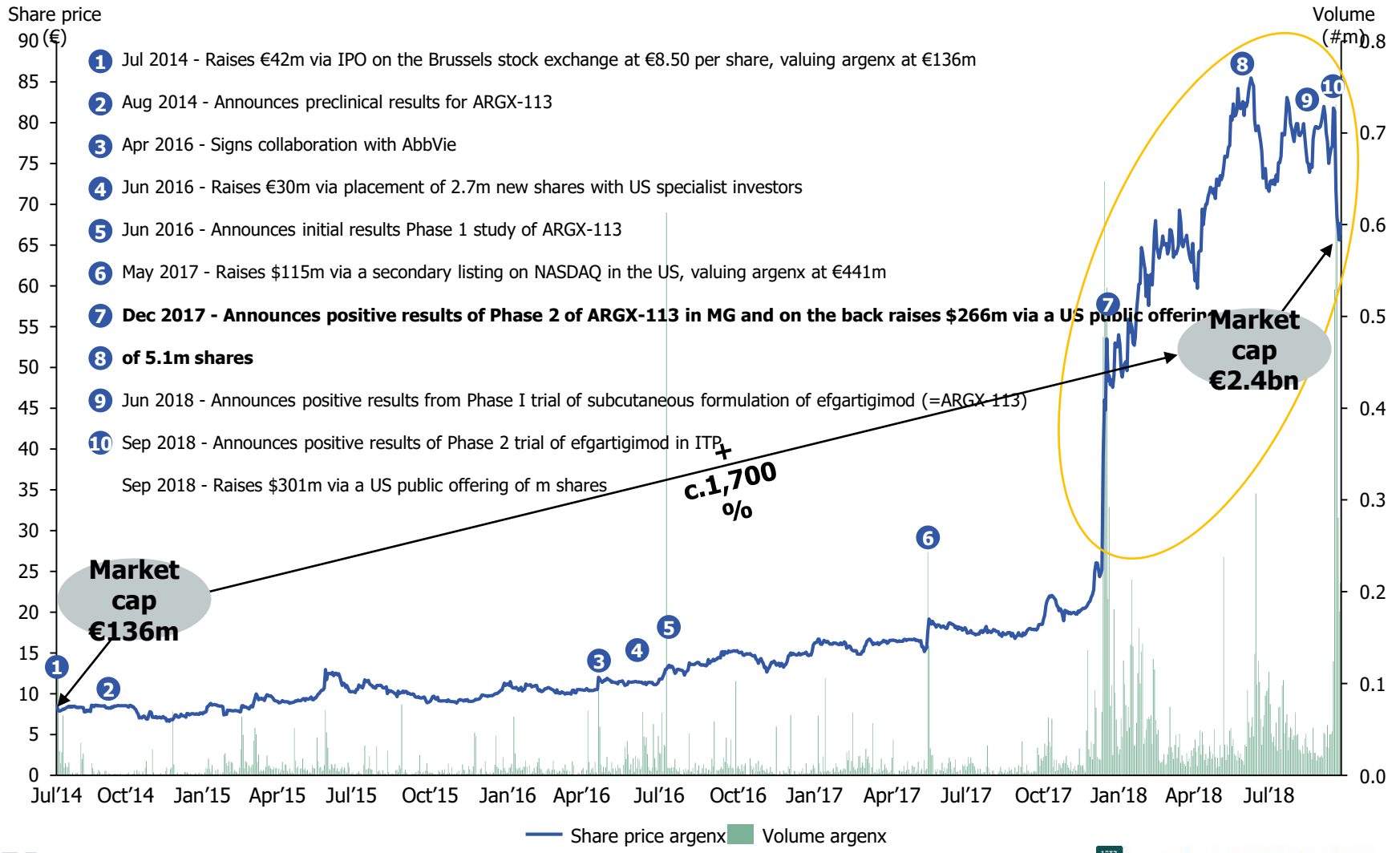
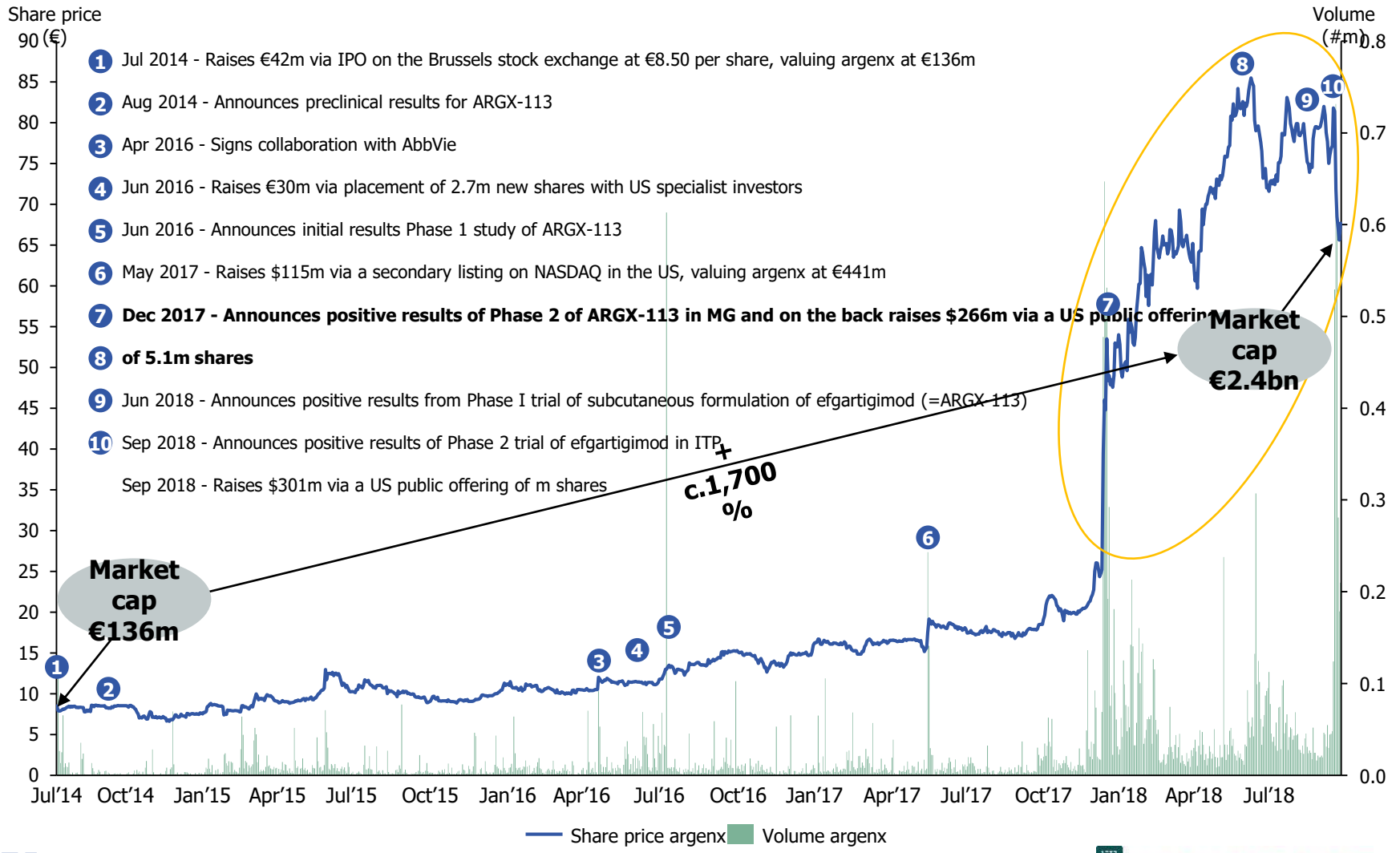
Strong clinical development pushes US backed argenx' share price up quickly



Share data as of 25 September 2018. Sources: Bloomberg, Company reports

Strong clinical development pushes US backed argenx' share price up quickly

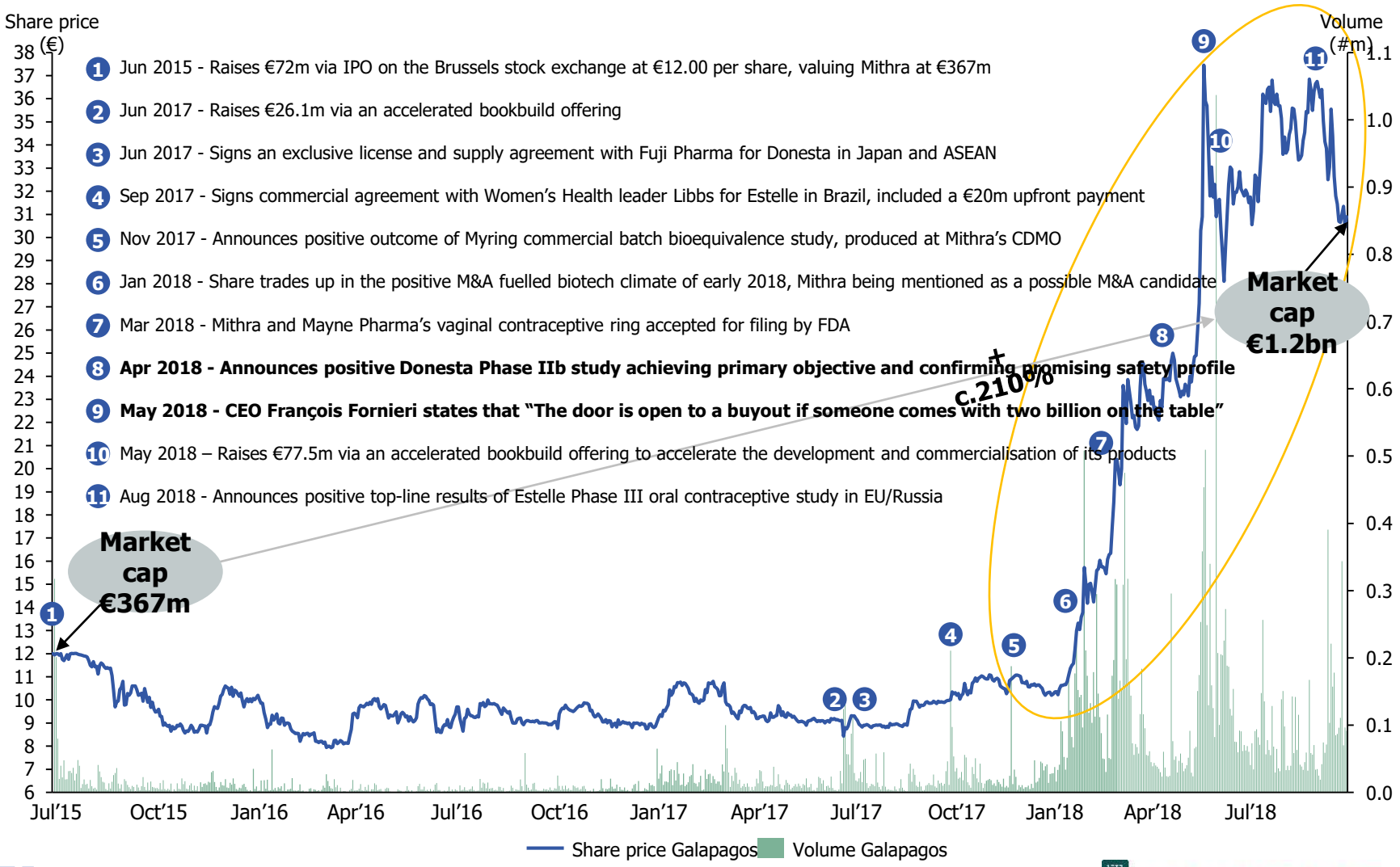


Share data as of 25 September 2018. Sources: Bloomberg, Company reports

Galapagos' positive clinical developments and strong partnerships made it a multi billion euro company

Share data as of 25 September 2018. Sources: Bloomberg, Company reports

With late stage assets developing and M&A rumours abundant, share price is skyrocketing



Share data as of 25 September 2018. Sources: Bloomberg, Company reports

With European market approval nearing and funding secured, share price is jumping upward

Share data as of 25 September 2018. Sources: Bloomberg, Company reports

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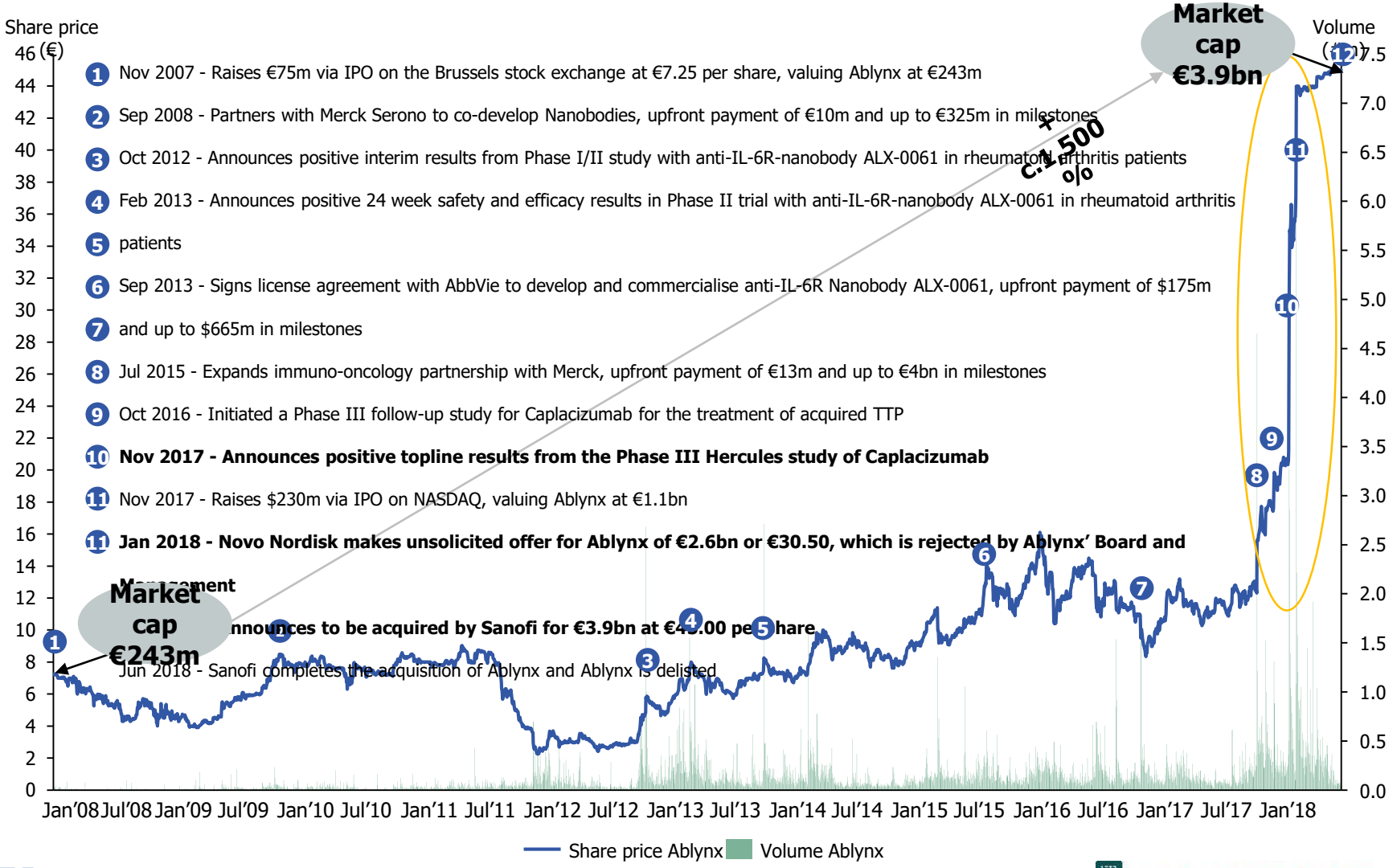
A vast number of clinical and partnering events since its IPO resulted ultimately in an acquisition

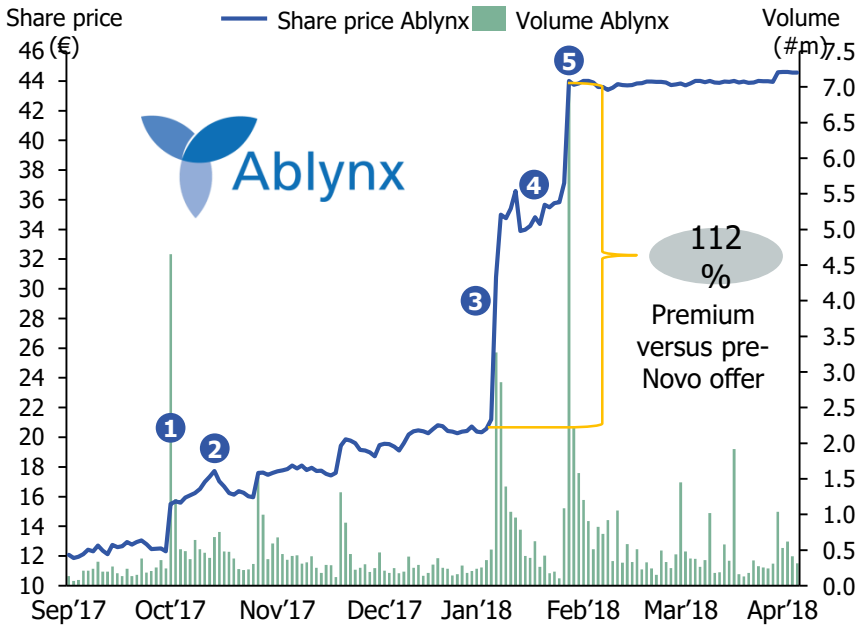


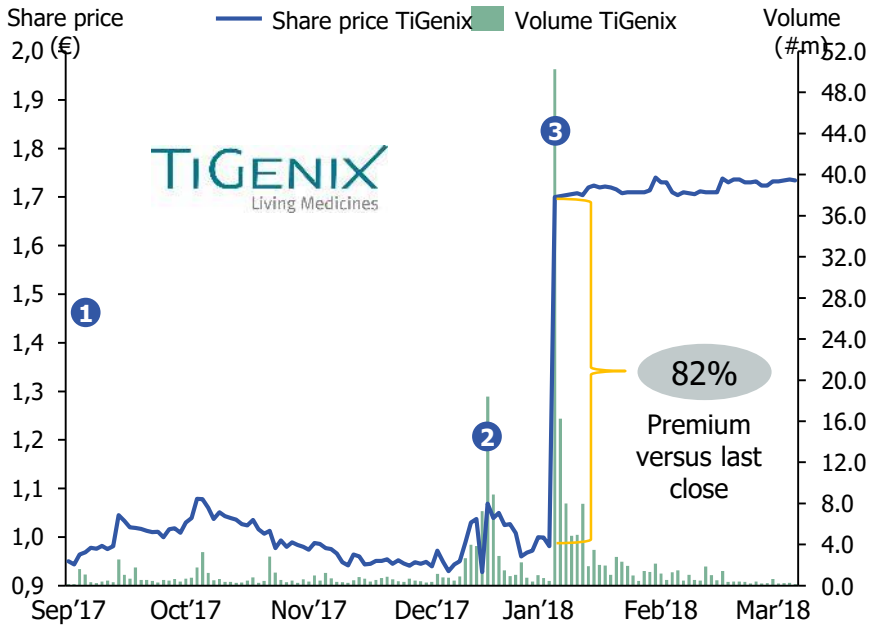
Share data as of 25 September 2018. Sources: Bloomberg, Company reports

Receiving approval of its main product resulted in an acquisition by its commercial partner

Share data as of 25 September 2018. Sources: Bloomberg, Company reports

Zooming in on the public takeovers of Ablynx & TiGenix





1. Announces positive topline results from Phase III HERCULES study of caplacizumab for the treatment of acquired TTP
2. Raises $230m via IPO on NASDAQ, valuing Ablynx at €1.1bn
3. Novo Nordisk makes unsolicited offer for Ablynx of €2.6bn or €30.50, which is rejected by Ablynx' Board and Management
4. Largest shareholder Van Herk (10%) states the offer is too low
5. Sanofi offers to acquire Ablynx for €45.00 per share or €3.9bn in total, which is fully supported by Ablynx' Board of Directors

1. In Jul 2016, TiGenix entered into a licensing agreement with Takeda for the Ex-US rights to Cx601 for €25m upfront, €355m in potential milestones and double digit royalties. In Dec 2016, the agreement was extended to include Canada and Japan and Takeda made a €10m equity investment in TiGenix (approx. 4.5% of total shares)
2. Announces that Cx601 (darvadstrocel) received a positive CHMP opinion to treat complex perianal fistulas in Crohn's disease, which will lead to market approval in the EU in a few months
3. Takeda offers to acquire TiGenix for €1.78 per share or €520m in total, which is fully supported by Ablynx' Board of Directors

Share data as of 25 September 2018. Sources: Bloomberg, Company reports

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Kempen's recommendations

Name	Country	Currency	Current share price[1]	Rating	Target share price	Upside potential
Favourites						
argenx		EUR	67.50	BUY	140.00	107%
Biocartis		EUR	12.22	BUY	21.00	72%
Galapagos		EUR	95.78	BUY	125.00	31%
Genmab		DKK	1,063.50	BUY	1,700.00	60%
Transgene		EUR	3.03	BUY	6.00	98%
Biotech						
ALK-Abello		DKK	1,110.00	SELL	850.00	(23%)
Bavarian Nordic		DKK	176.40	SELL	130.00	(26%)
Celyad		EUR	23.48	BUY	46.00	96%
DBV Technologies		EUR	40.44	BUY	70.00	73%
Erytech Pharma		EUR	7.91	BUY	33.00	317%
Genfit		EUR	21.60	BUY	40.00	85%
Kiadis Pharma		EUR	13.86	BUY	23.00	66%
Medivir		SEK	45.85	BUY	55.00	20%
Mithra Pharmaceuticals		EUR	30.45	BUY	40.00	31%
Molecular Partners		CHF	22.00	BUY	36.00	64%
MorphoSys		EUR	91.90	BUY	115.00	25%
Newron Pharmaceuticals		CHF	9.11	BUY	29.00	218%
Pharming		EUR	1.03	SELL	0.40	(61%)
Probiodrug		EUR	3.55	BUY	33.00	830%
Valneva		EUR	3.94	BUY	5.90	50%
Medtech						
Mainstay Medical		EUR	16.00	BUY	28.00	75%
Nanobiotix		EUR	16.41	BUY	33.00	101%
Diagnostics						
bioMerieux		EUR	74.30	SELL	68.00	(8%)
DiaSorin		EUR	93.10	NEUTRAL	90.00	(3%)
MDxHealth		EUR	3.00	BUY	5.70	90%
Qiagen		EUR	37.44	BUY	36.00	(4%)
Other Life Sciences						
Evotec		EUR	19.01	BUY	25.00	32%
Fagron		EUR	16.85	BUY	19.00	13%
UCB		EUR	77.58	SELL	70.00	(10%)

1. Share data as of 25 September 2(Benelux companies

Upcoming biotech newsflow[1] in the Benelux[2] in the next 12 months

argenx

- **1-4 Dec 2018: Efgartigimod full Phase II ITP data, ARGX-110 full Phase I AML dose-escalation data and ARGX-110 full Phase II CTCL data**
- YE 2018: launch of Phase III MG trial with Efgartigimod
- **H1 2019: Efgartigimod full Phase II pemphigus data**

Biocartis

- H2 2018: KOLs from Memorial Sloan Kettering Cancer Center will share their experience with Idylla at AMP
- H2 2018: Reimbursement of Idylla version of Genomic Health's Oncotype DX BRS expected in France and Germany
- H2 2019: Launch of Idylla version of Genomic Health's Oncotype DX BRS, beginning in France and Germany

Celyad

- 7-11 Nov 2018: Results from the solid arm of the Phase I/II THINK trial at SITC
- 1-4 Dec 2018: r/r AML THINK trial preliminary results to be presented around ASH

Galapagos

- Oct-Nov 2018: Interim readout from Phase IIa FALCON trial with CF triple in 508del homozygous patient
- 19-24 Oct 2018: Potential presentations on PSA, AS and late breaker for FINCH-2 at ACR conference
- Q4 2018: Phase IIa readout with filgotinib in CLE
- **YE 2018-Q1 2019: Topline results for Phase III trails FINCH 1 and FINCH 3 of filgotinib**
- Q4 2018: Start of Phase III studies with IPF1690 in IPF, Phase II study with GLPG1205 in IPF and Phase II with GLPG1972 in OA

Kiadis pharma

- Q4 2018: Potentially positive CHMP opinion of ATIR101
- **Q1 2019: Potential approval of ATIR101**
- H2 2019: Potential launch of ATIR101

mithra Women's Health

- Q4 2018: MyRing FDA approval
- **Q1 2019: Estelle US Phase III topline results**
- H1 2019: Donesta Phase III initiation

MDxHealth

- Q4 2018: Submission for Medicare coverage, which would open in 2019 to limited reimbursement
- Q4 2018: Partnering expected with an IVD platform company for an automated point-of-care SelectMDx version
- Q4 2018: Clinical utility studies results in active patient monitoring and in primary care use, which can significantly expand test's TAM

Pharming

- Q3 2018: Readout Phase II Ruconest in contrast-induced nephropathy and initiation of Phase II Ruconest delayed graft function study
- Q4 2018: Q3 2018 results on Oct 25th, initiation of Phase II Ruconest SC, IM and ID studies and of Phase II Ruconest preeclampsia study
- H1 2019: Initiate Phase I Pompe study

1. Kempen estimates 2. Only companies covered by Kempen, Fagron, ... excluded as they are not seen as biotech

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Questions from the audience

Q: ***Mithra heeft nog geen partnerships aangegaan voor de verkoop van Estelle in de VS en Europa. Wat is het verschil in potentieel van Estelle in de VS tegenover dat in Europa?***

A: In de VS liggen prijzen voor anticonceptie doorgaans een stuk hoger dan in de EU (zo'n 7x), daardoor zal het potentieel in de VS groter zijn. Verder is het aantal receptschrijvers in de VS een stuk geconcentreerder waardoor makkelijker een groter markt aandeel veroverd kan worden. Hierbij dient wel aangetekend te worden dat de verwachting is dat het patent van Estelle in de VS 5 jaar eerder zal verlopen

Q: ***Hoe snel is de verwachting dat argenx de fase III studie van Efgartigimod in gMC kan worden afgerond?***

A: De fase III studie is begin deze maand begonnen met de eerste patiënt behandeld met de eerste dosis. In totaal zullen 150 patiënten meedoen aan deze studie (ter vergelijking in de fase 2 waren dit er 24 waarbij het 4 maanden duurde om de eerste helft te rekruteren). De studie zelf duurt een half jaar duren waarna de patiënten de gelegenheid hebben om voor een periode van één jaar deel te nemen aan een open-label verlengingsonderzoek

Q: ***Waarom neemt België zo'n belangrijke positie in in de biotech sector?***

A: Er is in België sterke steun van de overheid via bijvoorbeeld taks voordelen, investeringen in onderzoek en publieke venture capital fondsen. Daarnaast beschikt België over hoog aangeschreven academische instituten en sterke onderzoekers. Ook is het financiële klimaat gunstig met een beurs en regulator die zeer welwillend tegenover biotech bedrijven staan en waar het (retail en generalistische) beleggerslandschap zeer positief voor biotech aandelen is. Verder is er in België heel veel pharma ervaring door de aanwezigheid van Janssen, UCB, Pfizer, Omega Pharma, etc.

Questions from the audience

Q: ***Momenteel is er in België vooral aandacht veel onderzoek, maar is er ook geld voorhanden om een fase III en de commercialisering te financieren?***

A: Ja daar is zeker geld voor, kijk naar de kleinere fase III studies die recentelijk zijn gedaan door Belgische bedrijven (Ablynx, TiGenix, Oxurion). Voor grotere indicaties is er wel meer funding nodig, met name vanuit de VS en vaak ook een partnership met een Big Pharma. Dit geldt echter niet alleen voor Belgische bedrijven maar voor heel Europa

Q: ***Zal het in de toekomst in Europa, net als in Amerika al het geval is, niet moeilijker worden om medicijnen goedgekeurd te krijgen door de EMA? Ze moeten immers altijd beter zijn dan de bestaande.***

A: Het is zeker niet zo dat het in Europa moeilijker wordt om medicijnen goedgekeurd te krijgen ten opzichte van de VS. In de jaren ’90 en de
jaren ’00 zijn er gemiddeld 15-20 nieuwe medicijnen goedgekeurd per jaar. In de afgelopen 10 jaar is dat gemiddeld 40-50 geweest met 56 goedkeuring in 2017. Ondanks dat de “easy solutions” inmiddels allemaal wel ontdekt zijn, zijn er een hoop nieuwe technologieën die nieuwe medicijnen mogelijk maken, denk bijvoorbeeld aan biologicals, gen therapie, CART-T en de sterkere focus op precision medicine. Daarnaast zal de samenleving altijd bereid zijn om te betalen voor innovatie die echt werkt. Neem bijvoorbeeld HIV waar 20 jaar geleden patiënten aan stierven en die nu, mits met medicatie, blijven leven en waar ook nog steeds ruimte is voor innovatie (namelijk daadwerkelijke genezing).

Questions from the audience

Q: ***Hoe wordt de prijs bepaald voor medicijnen? Ook overheden en ziekteverzekeringen hebben immers hun zegje. Zal er geen grotere neerwaartse druk komen op de prijzen?***

A: Momenteel is er veel (maatschappelijke) discussie omtrent de kosten voor medicijnen, al is deze discussie een stuk heviger in de VS, waar de prijzen voor medicijnen ook vele malen hoger zijn. Echter zoals eerder gesteld, zal de samenleving altijd bereid zijn om te betalen voor innovatie die echt werkt en daarbij is het huidige Europese systeem, waarbij producent, zorgverzekeraar en overheid met elkaar om tafel zitten en de prijs betalen, een succesvolle manier om hiermee om te gaan. Daarnaast is continue stijging van de zorgkosten veel meer verbonden aan de vergrijzing ed dan aan de kosten van medicijnen welke slechts ongeveer 5% van het totale zorgbudget bedragen

Q: ***Welk Benelux biotech aandeel heeft het allergrootste potentieel qua beurswaarde en welke zullen nog sterk kunnen stijgen? Kan bijvoorbeeld Galapagos op termijn 20 miljard euro waard worden?***

A: Uiteraard heeft niemand De bedrijven met de sterkste groeipotentie zijn de bedrijven met een gediversifieerd platform en een brede pijplijn, met potentiele first-in-class of best-in-class medicijnen zich richten op grote of onontgonnen markten. Uiteindelijk zijn de biotechs die echt double digit billion market caps halen altijd degenen die zelf een blockbuster medicijn op de markt brengen en commercialiseren, zoals Glead, Celgene en Amgen

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