Intron Health

22/08/2022

Xlife Sciences AG

INITIATION

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European IP Commercialisation Play

Price: CHF32.90
Target Price: CHF47

Xlife is an IP commercialisation company but with a strong focus on CDMO's/CRO's and A.I. based Healthcare assets. We believe they have an exciting opportunity to generate superior returns given management's extensive European network. Whilst there has been limited success from European Biotech, Europe has a strong track record in developing and growing highly successful CDMO & CRO companies. Xlife project co's are skewed towards the healthcare services space. Xlife was formed in 2019, so there have yet to be any exits to showcase the returns profile, but the early signs are that some holdings have increased more than 6x. We see more than 40% upside to the current valuation and significantly more in the mid-term.

Laxxon – 3D Printing for Small Molecules Validated by Big Pharma

Laxxon's 3D printing tech allows for novel ways to transform the profile of a drug by enhancing its safety or convenience whilst also providing existing drugs with extended patent protection. This potentially adds $bn's to drug NPV's making Laxxon's risk-sharing model highly attractive

Veraxa – Novel ADC Linker Platform with Validation from Merck

Veraxa have an ADC platform that materially enhances the profile of a customer's drug by optimising where the linker is placed through a novel screening platform. Veraxa's tech has had validation from Big Pharma.

Palleos & FUSE-AI Further Validation to the Xlife Strategy

Palleos is a full-service CRO, of which Xlife own 50%. We are generally bullish on the CRO sector and believe the tight supply makes Palleos an ideal trade-sale candidate given most big CRO's are highly acquisitive. FUSE-AI's technology equals highly experienced radiologists' ability to identify prostate tumours and they are also looking at Breast & lung cancer with a German launch due in the coming months.

Heavily Risk-Adjusted Valuation Implies >40% Upside

Whilst the current valuation is not reflective of the risk-profile today, we see even further upside from a multitude of near-term catalysts.

Analysts

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Summary of Asset Values

Company	Value (CHFm)	Stake	Per share value (CHF)
Veraxa	500	18%	17.48
FUSE-AI	100	35%	6.62
Palleos	77	50%	7.33
Laxxon	500	5%	4.45
SYNIMMUNE	73	37%	5.18
Axenoll	25	14%	0.66
Lysatpharma	17	25%	0.81
inflamed pharma	25	75%	3.55
QUADIRA	50	50%	4.73
Others	20	63%	2.38
Total	**1,388**		**53.19**
Platform value	25		4.73
Net cash (2022)	5.6		1.06
Convertible bonds/loans	-61.6		-11.66
Company value	**250**		**47.3**

Source: Intron Health estimates

Summary Financials

CHFm	22E	23E	24E	25E
Sales	0.8	0.8	0.9	1.0
EPS (CHF)	-0.83	-0.86	-0.90	-0.94
Net debt	-56.0	-59.6	-63.3	-67.2
Market cap	173			

Source: Intron Health estimates

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Investment Summary

Xlife is a Swiss early-stage Life Sciences company that supports companies that arose from ideas mostly developed at Swiss or German universities. The company's founders invested in numerous projects from these universities before Xlife's inception in 2018, building relationships over many years and achieving 14 exits themselves. They incorporated remaining projects and subsequent ones into Xlife as their network had grown to such an extent that it was necessary to scale the infrastructure to fully support each of the companies. Xlife now supports 26 companies and we are most excited by the two biotech investments, Veraxa & Laxxon. We believe both companies have significantly differentiated technologies and have sufficient evidence (either internal or external) to help support our view. Given Xlife's differing stake sizes in each of their project companies, the bulk of today's value is derived from four, based on our analysis. We value the whole company (net of cash and convertible debt) at CHF 250m, with the top four projects accounting for around two thirds of this.

Company Strategy

Xlife provides seed investment for new Life Science projects in the Biotech, Medtech, Digital Health and AI spaces. They utilise the expertise and personal connections of the board and advisory team to find these investments and provide the company founders with active management and stable funding. The companies run within Xlife are generally incorporated at the time that Xlife makes a seed investment, with Xlife typically owning 20-100% of the equity, although they can get diluted over time in subsequent fundraises. Projects are usually invested in at the proof-of-concept phase, with Xlife aiming to provide enough funding to complete this phase, after which they would look to exit via a trade sale, licence deal and/or IPO. While holding their stake in the company, they encourage companies to support one another through collaborations or by purchasing services. Therefore, Xlife projects also benefit from business synergies in the form of new customers and/or trusted suppliers as a result of the Xlife network.

History of Xlife's Incorporation

The company founders (David L. Deck and Gilbert Schöni) initially invested in Life Science projects as individuals, building relationships at centres of research over many years and achieving 14 exits from investments themselves. Their network is particularly strong at the Universities of Heidelberg, Mainz, Marburg, Tübingen and Jena. By December 2018, it had grown to such an extent that greater infrastructure was required to manage and support each company, so they incorporated Xlife in return for a convertible bond and convertible loan.

The have committed not to converting these instruments until 2029. Between them, they own approximately 50% of Xlife.

Value Today Driven By 6 Companies

By far the largest value driver for Xlife is their holding in Veraxa, in our view, which is worth CHF 17.48/share. We explain the value proposition behind Veraxa in depth in the section that follows. There are another five companies with valuations of CHF 4-7 / share which we also assess in detail. The table below shows all Xlife project company stakes and the value we ascribe to them.

Table 1: Summary cap table for Xlife

Company name	Valuation (CHFm)	Xlife stake	Xlife valuation (CHFm)	Per share (CHF)
Veraxa Biotech AG	500	18%	92	17.48
FUSE-AI GmbH	100	35%	35	6.62
palleos healthcare GmbH	77	50%	39	7.33
Laxxon Medical Corp.	500	5%	24	4.45
SYNIMMUNE Biotech AG	73	37%	27	5.18
Axenoll Life Sciences AG	25	14%	3	0.66
Lysatpharma GmbH	17	25%	4	0.81
inflamed Pharma GmbH	25	75%	19	3.55
QUADIRA BIOSCIENCES AG	50	50%	25	4.73
Ix Therapeutics GmbH	0	50%	0	0.00
Inventum Genetics GmbH	0	100%	0	0.00
alytas therapeutics GmbH	0	51%	0	0.00
clyxop devices GmbH	0	70%	0	0.00
x-nuclear diagnostics GmbH	0	100%	0	0.00
Xsight Optics GmbH	0	80%	0	0.00
panmabs GmbH	0	35%	0	0.00
Other*	20	63%	13	2.38
Total	**1,388**		**281**	**53.19**

Source: Company reports, Intron Health estimates

** Baliopharm AG, Xarma Life Sciences GmbH, Xprot GmbH, Novaxomx GmbH, Novum Technologie GmbH, Saniva Diagnostics GmbH, Vitruvia Medical AG, X-kidney Diagnostics GmbH*

Company Platform Worth CHF 25m

We value Xlife's company platform at CHF 25m, or CHF5.70/share, which is a nominal value for the network, relationships, expertise and capital-raising ability that Xlife brings to their project companies. If we see strong evidence of success in the form of exits, there is potential to reassess our valuation of the Xlife company platform. Its value today is supported by:

- The incremental value that Xlife brings to their projects companies by enabling them to easily raise new capital (which they would find much harder to do outside Xlife) and tap their managerial expertise
- The deep network of universities, institutions, funding partners, advisory board and advisors that Xlife brings together
- The long term track record of the founders, Deck and Schöni, who have 30 years of experience in the space and who have achieved 14 exits
- Xlife has enabled the filing of over 150 patients, with >70 granted

Xlife Value of CHF 250m; TP CHF 47

With the value of project companies being CHF 281m and the platform valued at CHF 25m, we add net cash of CHF 5.6m to this but must subtract the convertible bonds and loans on the balance sheet, worth CHF 62m to the founders. This values the whole company at CHF 250m and we use the 2023 average share count as the denominator to take account of the Feb-22 and subsequent share issuances. Our target price for Xlife is therefore CHF47/share.

Table 2: Company valuation shows 43% upside

CHFm	
Project companies value	281.1
Platform	25.0
Net cash (2022)	5.6
Convertible bonds/loans	-61.6
Company value	**250.0**
Shares (2023)	5,283.7
Value per share (CHF)	**47.3**
Price target (CHF)	**47.0**
Share price (CHF)	32.9
Upside	**+43%**

Source: Intron Health estimates

Over the page, we begin our deep dive into Xlife's project companies.

Veraxa (CHF17.48/Share)

This ADC development and antibody screening company is at the top of our valuation list as we believe the technology Veraxa have developed is truly differentiated, commercially relevant and hard to replicate. The company arose from a merging of Velabs with Araxa, inheriting both their technologies, with the primary value lying with the ADC technology from Araxa. This is in the small but potentially important niche of linker site selection, which is an area of investigation that has been overlooked by many other companies. On the antibody screening side, Velabs' technology is very high throughput, cheaper and shorter than traditional methods and can also find hits that would otherwise be missed. Based on our deep dive into the company technology and our meeting with management, we conservatively value the company at CHF 500m, which implies a CHF 92m valuation of Xlife's stake, or CHF 17.48 / share.

Veraxa is a Merging of Velabs and Araxa

Veraxa Biotech was founded in 2018, originally as spinoff company Velabs, but later fused in 2021 with the Araxa spinoff. Both companies were originally from EMBLEM, which was founded in 1999, is wholly owned by the European Molecular Biology Laboratory (EMBL) and serves as the tech and knowledge transfer partner. Veraxa's technologies were originally developed at EMBL covered by extensive IP rights. Their antibody screening technology came from Velabs and the ADC technology came from Araxa.

Site-specific ADC Tech is A Unique Offering

Originally from Araxa, Veraxa's ADC technology focuses on optimising the conjugation site. ADCs designed today generally do not consider conjugation site selection, despite it being known to impact the pharmacokinetics of the ADC. Veraxa argue that this causes suboptimal drug candidates to be developed. Having found this "gap" in ADC design, Veraxa's ADC creation specialises in optimising the conjugation site and utilising very precise and reliable chemistry to connect the antibody and drug together. To achieve this, they have developed **proprietary unnatural amino acids (UAAs)** which are inserted into the antibodies, allowing for site-specific payload conjugation at potentially any position on the antibody and also allows for very precise and controlled drug-to-antibody ratios. Veraxa's technology also supports conjugating an antibody to a radioactive isotope to deliver radiotherapy, which they call antibody-radioimmuno conjugates (ARC). With 70-80% of the ADC market currently outsourced, this market could turn into a very lucrative one for Veraxa given their business plan is to risk-share with partners.

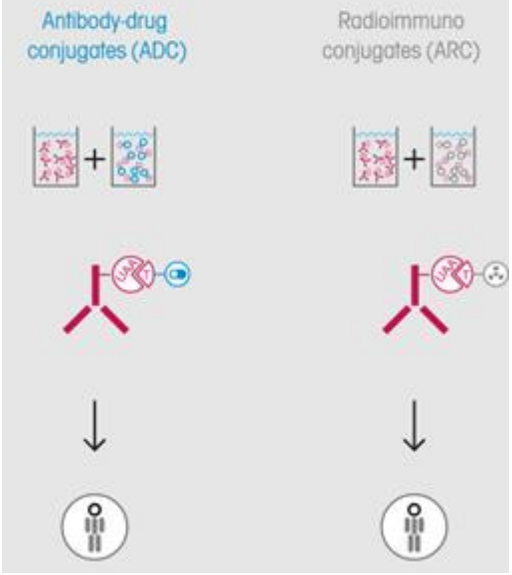
How the technology works

Veraxa's technology uses a tetrazine group (a specific type of molecule) as the conjugating bridge that links the antibody to the drug or isotope. This tetrazine group binds to the UAA in the antibody on one side, and the drug/isotope on the other side, linking them together. Veraxa calls this "click chemistry". It is so precise and reliable that the click reaction can occur even *in vivo*, not just *in vitro*.

Chart 1: Synthesis of tetrazine and functionalisation with drugs or isotopes

Source: Company reports

Chart 2: Bioorthogonal click chemistry for conjugating antibodies



Source: Company reports

Wuxi is Main Competitor, but They Don't Focus on Linkers

Wuxi Biologics offer design and manufacturing of ADCs, but their emphasis is on speed of development and manufacturing. On ADC design, Wuxi have an advantage in that they offer services for design of the mAb, the linker and the conjugation process, whereas Veraxa can only do the linker/conjugation, though their antibody screening technology can also help a client with the mAb design. Wuxi's value proposition is they are a one-stop shop for ADC development and manufacturing, whereas Veraxa offers more thoughtful design on the position of the linker. Ultimately, we believe that Veraxa's value proposition is very different to Wuxi's. If a client cares most about speed and streamlining the design/manufacturing process, then they will likely use Wuxi. However, larger BioPharma companies who have significant in-house capabilities and are looking to design the most effective ADC may be more likely to work with Veraxa, in our view. The company business plan involves risk-sharing with partners who use the Veraxa platform. Veraxa will receive milestones and royalties on future sales whilst the partner will pay for development costs.

Antibody Screening Technology is Also Unique

Veraxa has developed a high-throughput (48-hour process) process for one-step identification of therapeutic functional antibodies for a given biological target. This offers two key differentiations vs traditional antibody screening methods:

- A shorter and cheaper screening timeline
- The ability to find rare and otherwise difficult-to-find functional hits

The traditional two-step antibody screening process is inferior

The traditional method is slow, laborious and expensive. It identifies antibodies that bind strongly to the target (e.g. using an ELISA assay), but the hits it finds may not necessarily have a modulating impact on the target. Antibodies can bind to targets in many different ways, with the way it binds changing the effect it has (it may increase or decrease the function of pathway, or have no impact). Therefore, the first step is to find antibodies that bind to the target, and then a second step is needed to screen out those that have no functional impact on the target or the wrong functional impact. After this, the research team is left with a small number of antibodies that bind strongly to the target and have the desired impact (up or down regulation of pathway). Re-iterations are sometimes necessary if none of the candidates at the end of this are suitable and some steps may need to be repeated.

Veraxa uses microfluidics to perform single-step antibody screens

The Veraxa antibody screening method utilises microfluidics to complete the screening process in a single step in their Hitmaster machines. This machine can screen millions of fully human IgG mAbs for both binding and therapeutic effects (i.e. agonistic or antagonistic effect on receptor function) simultaneously. The agonist/antagonist effects are measured and quantified at a rate of hundreds of B-cells per second. By excluding target-binding, but non-functional antibodies early on, the number of candidates for characterisation and further engineering can be focused on high-potential MAB's only. Moreover, weaker binding but highly functional antibodies are included, whereas standard two-step processes would exclude them (as they bind weakly in step 1). Results are also obtained in a fraction of the time required by other technologies. In just a single eight hour screen, Veraxa can deliver 30-130 positive hits out of 250,000 B cells screened, per workstation.

Chart 3: Hitmaster machine

Source: Company reports

GPCRs are the largest and most diverse group of membrane receptors but have many difficulties with drugability including 1) overlapping ligands and similarly shaped binding sites, and 2) extreme difficulty in stabilising, purifying and crystallising which makes it hard to identify their structure and screen against.

Veraxa Can Screen for Complex Targets

Veraxa continues to improve its platform to better assess the functional impact of more complex targets, such as GPCRs (see margin). Veraxa has now developed some tailored assays for identifying GPCR-modulating antibodies for some GPCR targets, which is a useful addition for potential Pharma partners in our view, as it provides a service they cannot find elsewhere. As yet, they have not disclosed what these GPCR targets are, so we are unsure whether they are some of the more challenging, less stable GPCR targets, or some of the stabler ones which have already been hit by approved drugs. For reference, out of a total of 219 NMEs approved by the FDA from 2005-2014, 54 (25%) of them target stable GPCRs.

Veraxa Antibody Screening: Step-By-Step Process

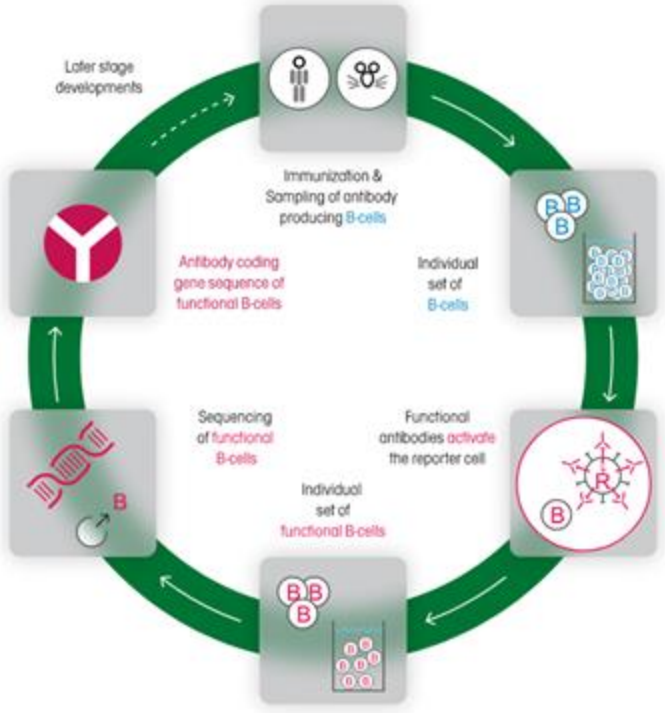
Below we summarise the steps performed to find antibody hits for a given biological target:

- Millions of diverse B-cells are created following exposure to target; this is often done in humanised mice
- Microdroplets are created and loaded with these B-cells (one B-cell type per droplet). The B-cells then create millions of identical mAbs in each microdroplet.
- Reporter cells, containing the biological target, are fused with the microdroplets

- The antibodies in the microdroplets either activate the reporter cell, or do not (this activation means the reporting cell biochemical pathway has been modulated by the antibody)
- Only functional B-cell secreting mAbs that induce modulation of the target (agonistic or antagonistic) induce measurable fluorescent signals, which are then quantitatively analysed and used as a trigger for the sorting process
- The sorting process takes place, in which microdroplets that are fluorescing are a positive hit (must be a two-fold change of fluorescence to be a hit - this reduces false positives) and those that do not fluoresce are discarded
- Positive B-cells are recovered and sequenced and the expressed mAb becomes a hit candidate

The above process finds functional antibodies, but a very similar one is used to find anti-viral (inc. COVID) and anti-bacterial antibodies, as well as personalised antibodies for cancer.

Chart 4: Veraxa antibody screening



Source: Company reports

Competition is Limited

There are multiple well established companies that offer traditional flow cytometry techniques for antibody screening (e.g. Abcam, ThermoFisher), but we have already explained the downsides to these methods. The addition of fluorescence-activated single cell sorting (FACS), which is offered by Bio-Rad and Nanocellect Biomedical, among

others, can improve on these downsides. However, Veraxa's technology remains differentiated, as FACS only allows for the sorting of single cells, but in Veraxa's system, every droplet can be compared to a multi-well plate where all components interact and can be assessed as a single compartment. In our view, therefore, the only company we can find that offers technology similar to Veraxa is Carterra-Bio, who have developed a platform called LSA, which is a high-throughput, one-step mAb screening platform that combines patented flow printing microfluidics with high throughput surface plasmon resonance (SPR) detection. However, their maximum capacity is to screen 1.1k mAbs at a time, whereas Veraxa is able to screen 250k mAbs in 8 hours on one workstation (1-2m B-cells screened in a few days). We therefore believe that Veraxa's technology is unique and competition appears to be limited.

A Variety of Commercialisation Models

Veraxa uses a variety of commercialisation models, including 1) research and license options, 2) technology licenses, and 3) Co-ownership agreements. They have existing collaborations with Merck KGaA, Yuhan, Chiome, Alytas Therapeutics, Indivumed, ABC Biopply and iX Therapeutics. The partner with generally provide a stable biological target (in reporter cell form) and possibly some other biological materials, enabling Veraxa to perform a feasibility study. Once this is complete, they can run the antibody screening and sequence positive hits, or design the ADC linker if that is what the partner desires.

Valuation of CHF 500m (CHF 17.48 / Share)

With Veraxa's commercial sales currently in the low single digit millions, a DCF would not be an appropriate way to value the company, in our view. We have found two comps that are ADC pure plays – ImmunoGen (CHF 1.3bn) and Mersana (CHF 700m). The former develops ADCs in oncology and has recently had one of their drugs accepted for Priority Review with the FDA. They are clearly further ahead than Veraxa, but Mersana is a better comp as they have one ADC asset in proof-of-concept clinical trials but multiple others in the discovery or preclinical stages of development. They also have signed a deal with GSK and J&J. We believe based on our research and meeting with Veraxa management that they can rapidly scale their ADC and antibody screening platforms by signing out-licensing deals. Both platforms are highly differentiated and well validated and attracting interest from Pharma players. In our view, they could easily have five clinical assets from these platforms within the next 2-3 years and so we believe a CHF 500m valuation at this point is appropriate and at a c. 30% discount to Mersana, which is its closest comp. This implies an Xlife stake value of CHF 92m, or CHF 17.48 / share.

Veraxa Management

CEO (& co-founder) – Christoph Antz
Christoph is an experienced company executive and former venture capital manager in the Life Sciences with special focus on drug development (both small molecules and biologicals), Diagnostics and Instrumentation. Prior to Veraxa, he was MD at Acousia Therapeutics (inner ear drug development) and Luxendo (light sheet microscopy).

CFO - Torsten Bürgermeister
Torsten has over 20 years of professional and management experience within Finance and BD in global Life Science and Tech companies such as Molecular Health, BASF Pharma, Techem Energy Services and Colt Telecom. He holds a Diploma in Business Administration from DHBW in Mannheim. He joined Veraxa in March 2022.

CTO – Lars Hufnagel
Lars has over 15 years of experience in the Life Sciences sector, with a strong focus on integrating technologies from high precision instrumentation, software, photonics and biology. Prior to joining Veraxa, he was General Manager and VP of Luxendo, a Bruker company. Lars received his Ph.D. from the Max Planck Institute for Dynamics and Self Organisation in Göttingen and has been Group Leader at EMBL Heidelberg and co-founded several companies in the biotechnology field. He joined Veraxa in March 2022.

Chairman of the Board – Berthold Hackl
Berthold is an executive, investor and board member in the Life Sciences industry. He has over thirty years of industrial experience in Europe and the USA in equity raising, buy-and-build, exits (especially trade sales) and the development of new markets, rounded off by supervisory board experience in technology companies. He also holds a degree in biology and an MBA from INSEAD.

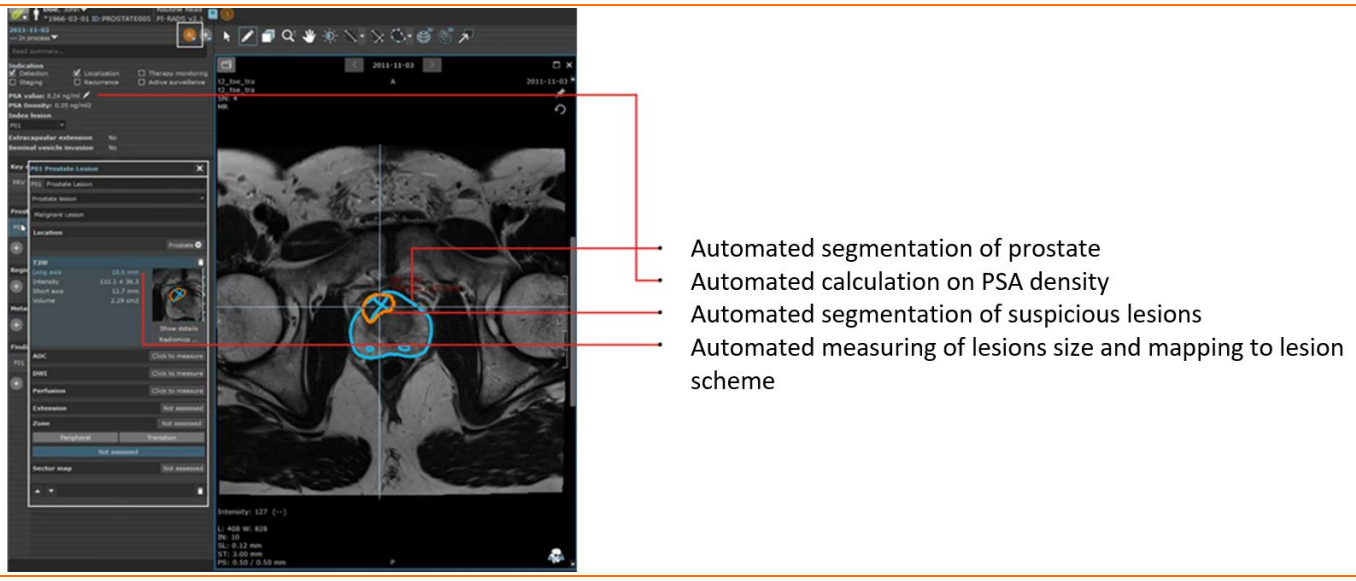
FUSE-AI (CHF6.62/Share)

This AI-powered image analysis company is developing radiology analysis software in the prostate cancer space through use of their deep learning algorithms. They have already gathered evidence that their platform is as capable as highly experienced radiologists at interpreting images and it can do this in the absence of contrast agents. They are now seeking distribution partnerships with medical image viewer companies, with an ambition to commercially launch in Germany first, before expanding to other regions. FUSE-AI is also developing imaging solutions in breast and lung cancer. We value the company at CHF 100m and Xlife's 35% stake is worth CHF 6.62 / share.

Prostate Carcinoma.ai

FUSE-AI have developed a deep-learning based assistance solution which analyses MRI images to diagnose prostate cancer without the use of contrast agents, which makes the diagnosis cheaper, minimises the risk to patients and requires less physician time. This cloud-based solution, branded as Prostate Carcinoma.ai, can integrate seamlessly with currently used image software. It marks suspicious areas of the prostate that have, in its view based on training from past datasets, a high probability of containing malignant tumours. Individual regions of the prostate and possible lesions are highlighted in MRI images and classified according to the prostate lesion scheme (standardised rating systems for prostate cancer). An automated report is also generated to help physicians in their decisions.

Chart 3: Prostate Carcinoma.ai Interface

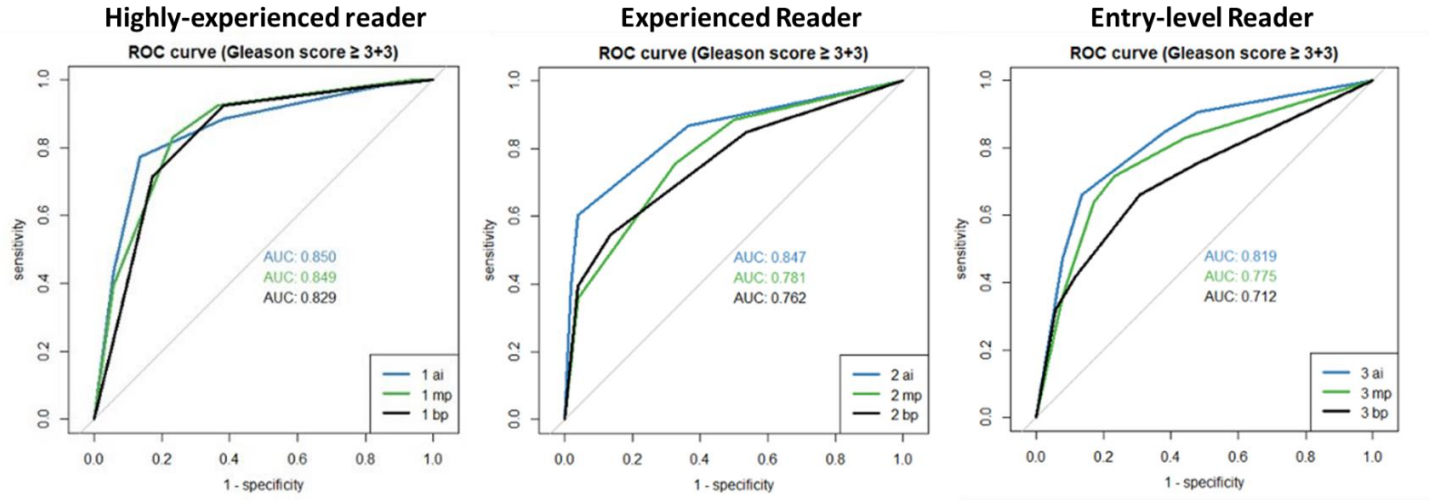


Source: Company reports

Prostate.Carcinoma.ai has Shown Clinical Validation

The accuracy of Prostate Carcinoma.ai's predictions have been found to be comparable to radiologists in a study by Pellicer-Valero *et al.* The detection sensitivity for suspicious lesions was 0.86 for the AI software vs 0.85 for a human radiologist. The first clinical data also indicates that carcinoma detection with Prostate Carcinoma.ai is at least as good as a highly-experienced human reader and better than experienced or entry-level readers. The charts below show that the AI specificity and sensitivity areas under the curve (AUC) exceeded those for human readers in each case.

Chart 4: Clinical data shows Prostate. Carcinoma.ai is as accurate as highly-experienced readers



Source: Company reports

More clinical data now being generated

FUSE-AI is currently collaborating with three Swiss hospitals in a multicentre assessment of their AI-assisted software for prostate carcinoma. This study is investigating whether their prostate segmentation and lesion detection in multiparametric magnetic resonance imaging (mpMRI) is equivalent or exceeds the widely utilised gold standard.

Business Model is Install Fee + Pay-Per-Use

FUSE-AI intends to be the first CE-certified prostate cancer detection solution in the German market. Once approved and launched, the company is looking to charge c. €15k for installing and integrating their software into a customer's system, with a pay-per-analysis business model used thereafter. After Germany, they are targeting another 36 countries in Europe via certification EU MDR 2017/745. In the US, the relevant regulation is FDA 510(k). They also seek to launch in Australia, Japan, South Korea and Canada.

Project KIRMED is another commercial opportunity for FUSE-AI

In collaboration with University of Lubeck, FUSE-AI is developing the solution KIRMED to identify poorly healing bone fractures at an early stage. This early-stage recognition should improve patient outcomes by allowing the deployment of additional therapeutic strategies to improve healing and mitigate the failure to heal.

Competition is Intensifying, but FUSE-AI is Still Early

There are many AI-powered imaging analysis companies (e.g. Aidoc, Paige, Path AI), but most are building competence in areas outside of AI-FUSE's focus. Nevertheless, we have found two companies (Aiforia, Visiopharm) that are seeking to commercialise their technology within the prostate cancer space. However, Visiopharm technology requires that the tissue is stained, which FUSE-AI does not and this is a key differentiator in our view. There are also several companies operating in the prostate MRI image analysis space (e.g. Quantib, Siemens Healthineers, Lucida Medical, JLK, Quibim), but we believe these are at an earlier stage of development and they are not yet patented or seeking to form distribution partnerships with medical image viewer companies, like FUSE-AI is. In summary, the prostate imaging analysis market is currently in a nascent state and given FUSE-AI's early data we believe it is in a strong position to carve out a sizeable market share.

Valuation is In Line with Aiforia

As AI imaging analysis companies are in an early stage of development, there are very few market-valued comps for FUSE-AI, but Aiforia is the most appropriate in our view. It is listed in Finland and valued by the market at ~$100m, which provides us with a suitable benchmark. Aiforia's imaging analysis technology is used by around 3k pathologists and medical scientists, but it is not being fully commercialised and only made sales of <€1m in 2021. Although we do not have a comparable number for FUSE-AI, we have calculated that it can initially target the ~8k radiologists in Germany (see table below), with another ~60k to target in other key developed markets (EU5 + US). We believe that FUSE-AI could also have an edge over competitors in that their imaging analysis does not require a contrast agent and they have very solid data proving the software's effectiveness in this regard. Given these advantages, we believe valuing it in line with Aiforia is appropriate, even though FUSE-AI is a little behind on commercialising its technology.

Table 5: Number of radiologists in each market

Country	Population (m)	Radiologists per million	Radiologists
Germany	**83.2**	**92**	**7,658**
France	67.4	130	8,761
Spain	47.4	112	5,303
Italy	59.6	177	10,540
UK	67.2	48	3,227
US	329.5	92	30,314

Source: Intron Health, RCR, healthmanagement.org

FUSE-AI Management

CEO - Matthias Steffen
Matthias has experience as a CEO in the development and marketing of software products for the healthcare industry. He is a co-founder of FUSE-AI.

Head of Scientific & Medical Affairs - Dr. Sabrina Reimers-Kipping
Sabrina holds a PhD of Biochemistry and has prior experience in business development. She is a co-founder of FUSE-AI.

Project Management and Medical Affairs - Anne Wesche
Anne has a background as a biologist and is a specialist in public relations.

palleos healthcare (CHF7.33/Share)

This company is a full-service clinical research organisation (CRO) that provides both early-stage consulting and clinical trial services from preclinical through to clinical development, primarily in Germany. They also have a "clinical innovation platform" that they operate in collaboration with Phaon Scientific, which offers independent research with industry partnering for trial development, execution and publication of results. They are an established clinical trial services provider and support other project companies held by Xlife. In 2022, revenues are expected to be €7m, double the 2021 level and we anticipate EBIT of around €1m. We have NPV'd the company at CHF 77m, which values Xlife's share at CHF 39m, or CHF7.33 / share.

We are bullish on the CRO segment broadly and believe there is a good chance that Palleos is acquired as the CRO industry is still highly fragmented and the bigger players are looking for resource as well as innovation.

Clinical Trial Services

As a full service CRO, Palleos provides services for Phase I-IV clinical trials from planning to closure, which includes expertise in Project Management, Monitoring, Data Management, Regulatory affairs, Medical writing and monitoring, quality risk management, safety and pharmacovigilance. Palleos offers these services in Germany, but it has the ability to extend to Europe and the US via its partnerships with 3rd party CROs.

Consulting Services

A TPP is a document that aids the process of navigating the approval of an investigative drug product. It provides detailed information regarding the commercial and intended therapeutic goals of the product, and the intended development plan to achieve this.

Palleos provides consulting services for preclinical product development, including indication identification and the preparation of Target Product Profiles and Development Plans, which are essential documents for commercialisation. They identify initial indications via a combination of client suggestions and a comprehensive analysis of medical and scientific research in the public domain. These are then codified into a Target Product Profile (TPP). The Development Plan, a detailed summary of the whole preclinical and clinical research strategy for an investigational product, is then derived from the TPP and provides a clear asset commercialisation plan for clients.

Table 6: Palleos' consulting services

Product Definition	TPP Definition	Development Plan
Gap Analysis	Gap analysis	Create a Product Development Plan
Searching for candidate indications	Define Target Product Profile	Define Chemistry, Manufacturing and Controls requirements
Prioritising indications	Guided authority feedback on Product Definition	Define requirements for clinical trials
Process guidance for indication selection		

Source: Company reports

Clinical Innovation Platform

Palleos has signed a collaboration agreement with Phaon Scientific to provide what they term an "innovation platform" to customers looking to conduct clinical trials. Phaon provides statistical expertise to aid in the development of innovative clinical trial design, with Palleos providing operational support for the trial and help to navigate the ever increasing complexity of regulatory hurdles. Phaon also has expertise when it comes to publishing data, ensuring that the customer clinical data that is generated can be efficiently distributed.

Marketing Strategy is Two-Fold

Palleos' full-service CRO business conducts direct marketing to existing partners in addition to technology partners in the Medical Device and Pharma sectors. For the Clinical Innovation segment, Palleos rely on Phaon to exploit their key opinion leader network to directly build relationships with investigators and Pharma companies.

We Value Palleos at CHF 77m

In 2022, Palleos is on track to double sales and become profitable for the first time. For CRO companies, margins are typically low (in 2021, IQVIA and Labcorp posted 10% and 20% EBIT margins respectively), but Palleos offers preclinical consulting work in addition to its CRO services so we believe its margin could reach the higher end of the range. From a base of €7m, we assume the company can grow at a CAGR of 25% to 2030, increasing its EBIT margin from 14% to ~20%. We use a WACC of 9% and assume a terminal growth of 2%, we value the company at CHF 77m today, but this could increase if they are able to expand beyond Germany. As Xlife owns half the company, it is worth CHF 39m to them, or CHF 7.33 / share. We are bullish on the CRO segment broadly and believe there is a good chance that Palleos is acquired as the CRO industry is still highly fragmented and the bigger players are looking for resource as well as innovation.

Table 7: DCF calculation – key variables

Factor	
WACC	9%
Terminal growth	2%
Peak sales, €m (2030)	44.8
Peak margin (2030)	21%
Tax rate	20.0%
NPV to 2030 (CHFm)	**24.6**
NPV of terminal value (CHFm)	52.8
NPV for whole business (CHFm)	**77.4**
Xlife's share (CHFm)	38.7
Value/share (CHF)	**7.33**

Source: Intron Health estimates

Management

President - Renate Walter-Kirst

Renate co-founded Palleos and has over 25 years of experience in national and international upper management positions with in-depth knowledge in building, leading and managing companies. She graduated from the European Business School and Johannes Gutenberg University in Germany.

Vice President - Dr. Philip Räth

Philip co-founded Palleos and now oversees business development, commercial and financial operations to promote the company's growth. He graduated in business administration and holds a PhD in Management Information Systems from the European Business School in Germany.

Laxxon Medical (CHF4.45/Share)

Laxxon has the global exclusive rights to Screen-Printed Innovative Drug (SPID) Technology that can print complex pharmaceuticals with optimised properties including improved bioavailability and pharmacokinetics. The company seeks to sign agreements to reformulate soon-to-be off-patent branded drugs to improve properties, extend patent life and ultimately generate longer-term sales at a higher-than-generic price point. They have an extensive pipeline of 12 in-house development programmes, of which 6 are being actively run and a further 3 contractual development programs with external partners, with the first such customer signing in 2019. We conservatively value the company at CHF 500m, implying Xlife's 5% share is worth CHF 24m, or CHF 4.45 / share.

Repositioning and Repurposing Drugs

Laxxon's business model creates value by extending the patent life of existing drugs through technological improvements. By repositioning and repurposing drugs, often via the 505(b)(2) regulatory pathway (which only requires bioequivalence trials, not full clinical trials), they are able to improve the pharmacological benefit to patients and improve drug compliance. With new or extended patents following technology transfer agreements with customers, drugs are able to be sold at above-generic prices, ensuring attractive margins to Laxxon and its customers. The company is targeting the c. $190bn of drugs sales that are due to lose their patent protection in the next 10 years (~150 branded drugs as of today). The size of the market is therefore very substantial.

Laxxon is paid milestones and royalties

Typically, the company seeks to agree deals where they are paid milestone payments during the development and engineering stage of the project, with royalties on future net sales of the products they develop. In addition to these agreements with originator companies, Laxxon is pursuing their own, in-house products which they could later license to other companies for commercialisation (originator or competitor).

SPID Technology

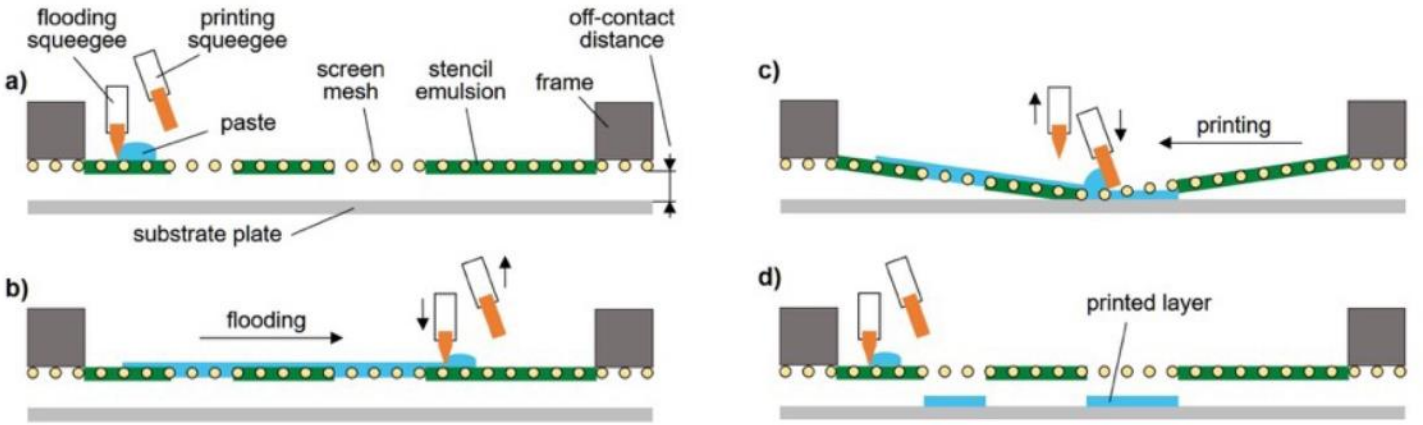
Laxxon Medical has exclusive worldwide rights for the development, production and commercialisation of Screen-Printed Innovative Drug (SPID) Technology. As 3D screen printing is an additive manufacturing technology in which custom geometric architecture can allow discontinuous distribution of APIs, it allows for high dosing flexibility and a tailored drug release profile. This technology can therefore be used to generate smart drug delivery systems with tailored pharmacokinetics. Multi-drug in one pill, delayed effect and special coatings are all possible

using this technology and it can be manufactured at mass production scale.

3D printing process has advantages over other methods

The 3D screen printing process uses a screen mesh to transfer a semi-solid API-containing paste onto a plate, except in areas made impermeable to the paste. The deposited layer is left to dry, with the next layer printed on top of it. This process is fully automated and can allow mass customisation to build of thousands of units per screen simultaneously. Unlike other 3D printing technologies, the number of units printed simultaneously is defined by the ratio of screen size to unit size, rather than other methods which are limited by the number of printing heads. Up to 1.5 million tablets per day can be manufactured with current facilities.

Chart 5: 3D screen printing technology

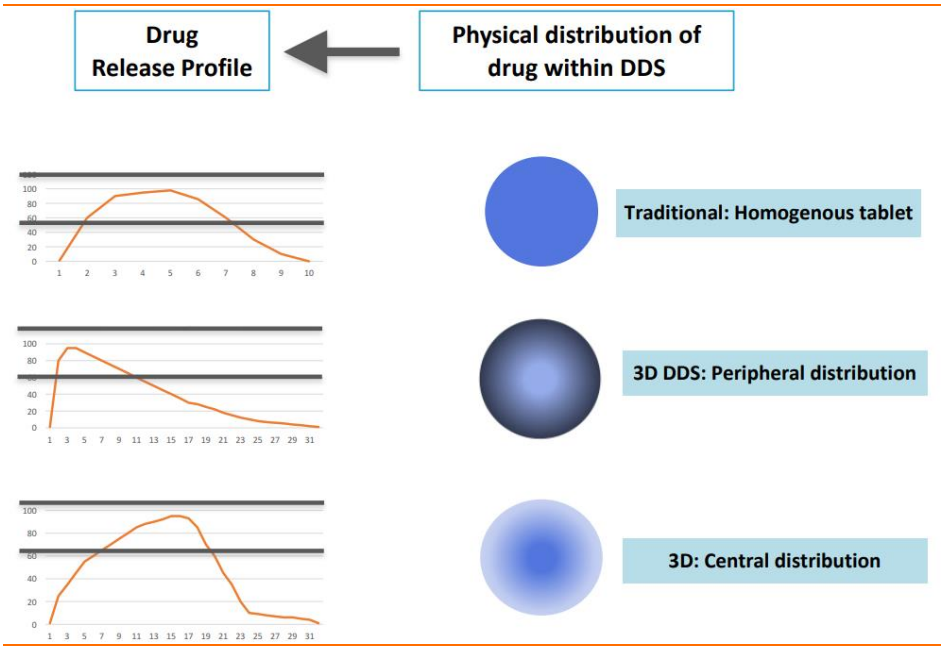


Source: Company reports

Drug bioavailability can be matched or improved

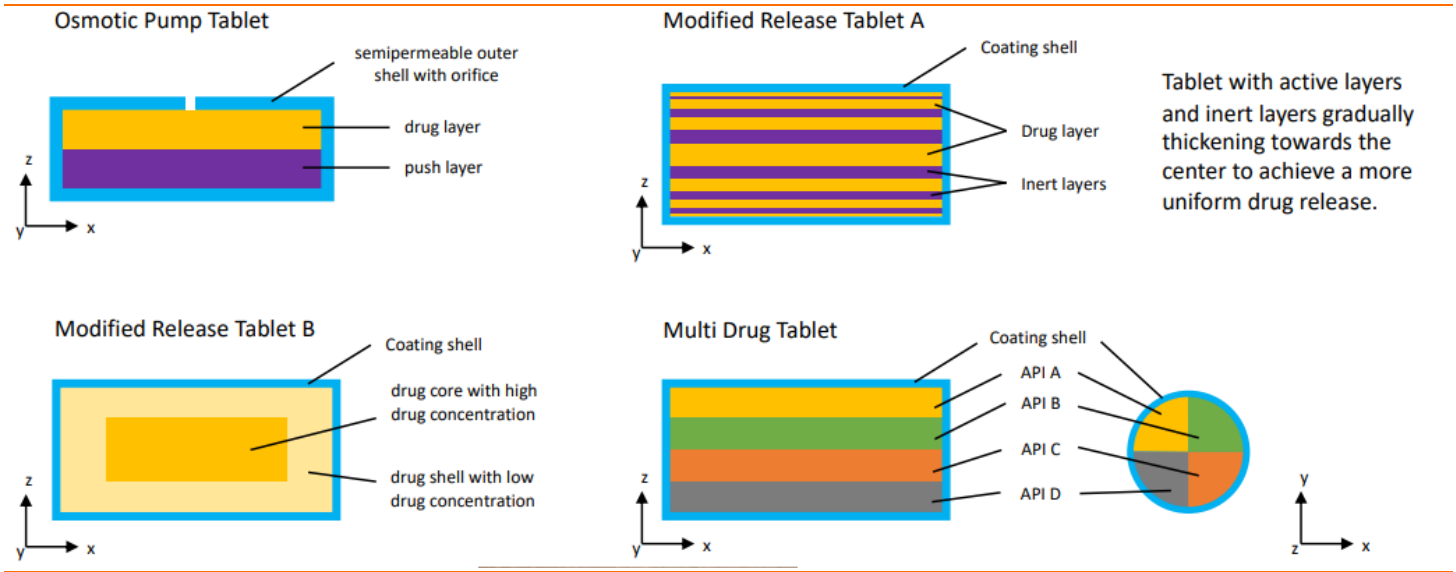
3D drug delivery systems enable the controlled systemic release of APIs. The geometry of a tablet has considerable influence on the dissolving speed (mainly due to the surface-to-volume ratio), so drug release can be easily altered by adapting the tablet design. Laxxon's technology is well suited to making these adjustments. For instance, brivaracetam, a drug for Epilepsy, requires frequent daily dosing and this causes problems with patient compliance. By altering pill design, Laxxon seek to reduce the dosing to one pill per day with identical pharmacokinetics or even improved bioavailability.

Chart 8: Drug release profile vs physical distribution of drug



Source: Company reports

Chart 9: Various forms of drug can be printed



Source: Company reports

Pipeline Has Increased to 17 Assets in 2 Years

Laxxon has a varied pipeline of 12 in-house development programmes, 6 of which are being actively run. There are also 3 contractual development programmes with external industrial partners.

Table 10: Laxxon's pipeline

Product	Indication	API	Initiation	Est. launch
LXM.1	Epilepsy	Brivacacetam	2020	2025
LXM.2	Diabetes	Oral insulin	2021	2026
LXM.3	Pain Relief	Confidential	2022	2025
LXM.4	Epilepsy	Levitiracetam	2022	2024
LXM.5	Parkinson's Disease	Levodopa	2020	2024
LXM.6	Schizophrenia	Aripiprazol	2022	2025
LXM.7	Diabetes	Sitagliptin	2022	2025
LXM.8	Migraine	Triptans	2022	2025
LXM.9	Depression	SSRI	2022	2025
LXM.11	Blood clotting prevention	Rivaroxaban	2022	2026
LXM.12	Prostate cancer	Enzalutamid	2022	2026
LXM.13	Lung cancer	Osimertinib	2022	2028
LXM.14	Prostate cancer	Abiraterone + prednisone	2022	2025
LXM.15	Antihypertensive	Levamlodipine + valsartan	2022	2025
LXM.16	ADHD	Lisdexamfetamine dimesylatte	2022	2025
LXM.17	Neuropathic pain	Pregabalin	2022	2025

Source: Company reports

Xlife's 5% Stake is Worth CHF 24m In Our View

Laxxon has signed strategic partnerships with 17 companies to date and we expect more in the near future. There are also some expressions of interest from Big Pharma in working with Laxxon, including Eli Lilly, who are working with them on two drugs and potentially another five. Their technology is proven, flexible and they have a clear commercialisation plan to use the 505(b)(2) pathway, which has been used by many other companies to successfully create material value from originator products (e.g. Teva with Bendeka, Ipsen with Onivyde, UroGen with Jelmyto, Antares Pharma with Tlando). Laxxon's last funding round was completed at a valuation of $215m (c. CHF 205m), but they have hit significant milestones since then, so given the progression of their pipeline, we are now comfortable at valuing them at CHF 500m. As Xlife own a 5% stake in Laxxon, that is CHF 24m of value to Xlife, or CHF 4.45 / share.

Laxxon Management

CEO & Chairman of the Board - Helmut Kerschbaumer

Helmut trained in distribution with C&A and joined the management board of the company. He has held positions including Managing Director of Melbrosin International, CEO of IPMD GmbH and CEO of Uluru Inc USA.

CFO and Director of the Board - Marjorie Bailey

Majorie holds a BA from San Jose State University, USA. She has 20 years of experience working with “C” Suite Executives in many industries and experience in company business planning, funding and culture.

CSO - Dr Achim Schneeburger

Achim holds an MD in Medicine from University Tubingen in Germany. He has over 20 years of experience in biomedical research and drug development, focusing on cancer and chronic diseases. He held positions including the CMO of AFFIRIS and was responsible for the clinical development of the company’s vaccine candidates in Alzheimer’s, Parkinson’s, Multiple System Atrophy and Atherosclerosis.

Potential Value in Five More Holdings

We have identified five other companies in Xlife's holdings that could one day justify very material valuations, but we consider them to be riskier technologies and therefore risk adjust their valuations down considerably until further validation has been performed. These holdings include SYNIMMUNE, inflamed pharma, QUADIRA, Axenoll and Lysatpharma. Together, we value the five companies at CHF 190m, worth CHF79m to Xlife today (CHF 14.93 / share), but with the potential for large valuation inflections in the coming quarters.

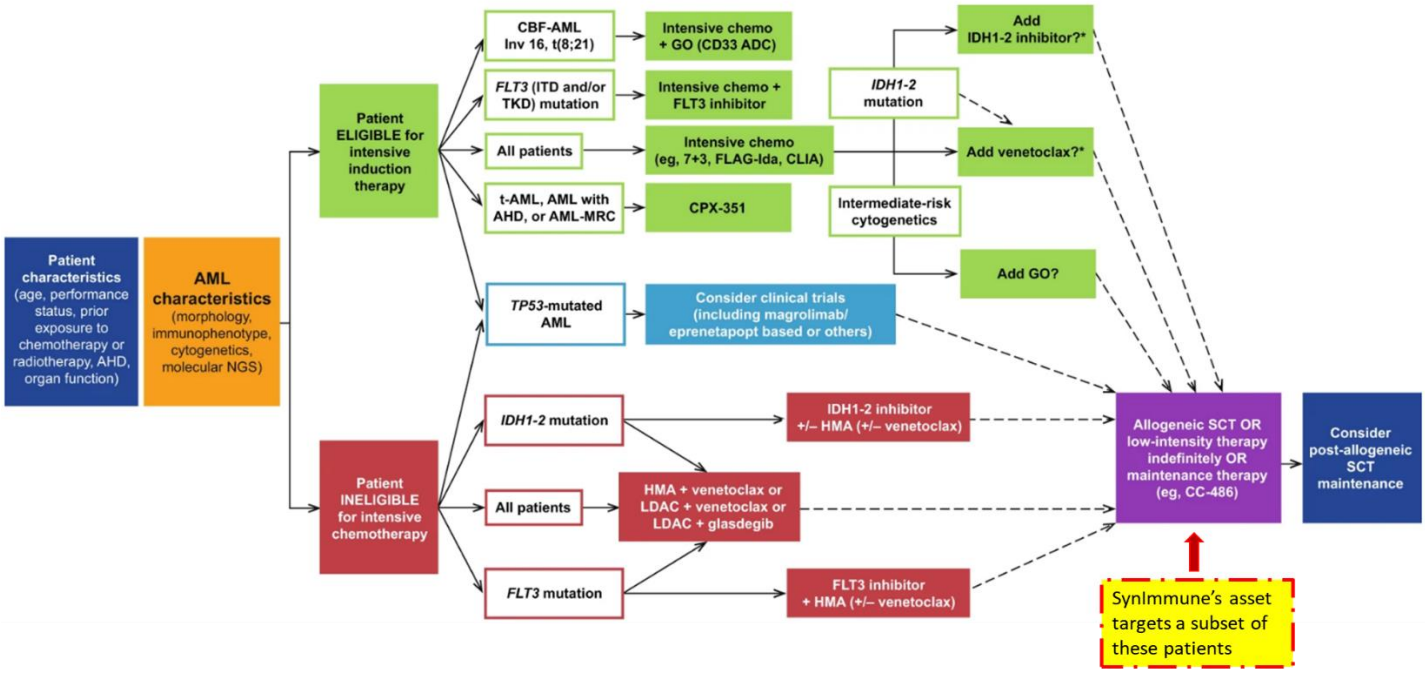
SYNIMMUNE (CHF5.18/Share)

SynImmune develops innovative mono and bispecific anti-tumour antibodies for orphan haematopoietic malignancies. The company's lead asset FLYSN has completed a first-in-human phase I clinical study in AML, in which it achieved a 35% overall response rate in 31 patients. SynImmune also believe that the drug has advantages over other members of its FLT3 class and it is targeting a setting in which none of the three approved FLT3 drugs have a label. Following the positive phase I results, the company is now seeking a partner to advance the asset into phase II development. We value the company at CHF 73m based on a highly risk-adjusted NPV-based valuation of their lead asset FLYSN, assuming they were to out-license it for 15% royalties and $200m of milestones. This implies Xlife's stake is worth CHF 27m, or CHF 5.18 / share.

FLYSYN Targeting 30% of AML Patients

FLYSYN is an FLT3 antibody in development for the treatment of elderly AML patients in complete remission but who are ineligible for stem cell transplantation. This accounts for c. 30% of all AML patients and this proportion is expected to increase due to the introduction of new combination therapies. FLYSN aims to maintain patients in complete remission and extended PFS and overall survival.

Table 11: FLYSN Target Population

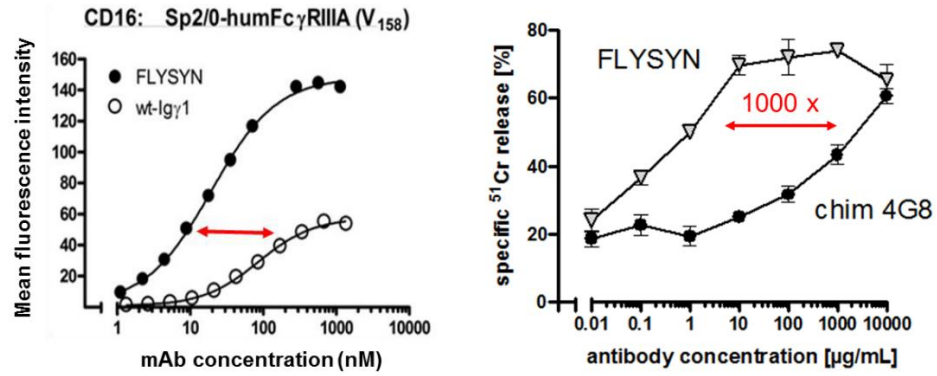


Source: Company reports

FLYSYN has optimised properties

FLYSN has optimised binding to CD16 on natural killer cells, leading to a 1,000-fold increase in tumour cell lysis compared to the control. FLYSN also has distinct advantages over FLT3 inhibitors, in that it has highly specific binding to FLT3, so the tolerability profile is more likely to be favourable.

Chart 12: FLYSN has improved NK cell binding and tumour cell lysis



Source: Company reports

FLYSN is not the first FLT3 drug, but it is potentially best-in-class

There are currently three approved FLT3-targeting drugs (Rydapt, Xospata and Nexavar), but FLYSN has distinct properties which differentiates it. Firstly, it is highly selective for FLT3, unlike Nexavar, which binds to several kinases. Secondly, it is more potent, actually destroying AML blast cells, not merely reducing proliferation. Thirdly, it is

targeting an indication in the maintenance of complete remission for AML, none of which the three currently approved FLT3 drugs are targeting.

Table 13: FLYSN has proposed advantages over other FLT3 inhibitors

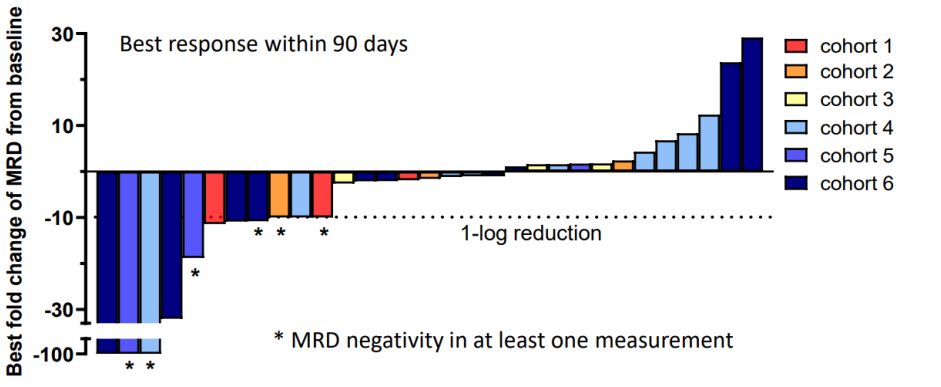
Property	FLT3 inhibitors	FLYSN
Kinase activity	Inhibits kinase activity, reduces proliferation of AML blast cells	Does not inhibit kinase activity, induces destruction of AML blast cells
Specificity	Often not FLT3 specific, also inhibit other kinases	Highly specific, binds to extracellular domain of FLT3 only
Targeting	Functions in FLT3 mutated patients – approx. 30%	Binds to all forms of FLT3-mutated and wildtype
Tolerability	Considerable side effects	Well tolerated
Indication	Indicated in combination with chemotherapy; not suited for CR maintenance therapy	Indicated to maintain CR in AML, also can be used in combination with continued 1L therapy

Source: Company reports

Promising efficacy displayed in first-in-man study

FLYSYN was evaluated in 31 patients in a first-in-human phase I clinical trial in AML patients in complete remission, but who have minimal residual disease (often detected by PCR tests). In this setting, FLYSYN was found to have an overall response rate of 35%, with 46% of patients receiving a cumulative dose of 45mg/m^2 and 28% of <15mg/m^2. It was also well tolerated, with no dose limiting toxicity and no treatment-related serious adverse events (AEs). AEs were observed in 25/31 patients, with 2 patients presenting with grade 3 transient neutropenia; all other AEs were grades 1 or 2. Additionally, no neutralising antibodies were detected.

Chart 14: Best fold change of MRD from baseline with FLYSYN treatment



Source: Company reports MRD: Minimal residual disease

Partner Required for Further Development

Synimmune has decided to partner the asset before moving into phase II. They are planning a 30-36 month double-blinded placebo-controlled trial in elderly AML patients ineligible for stem cell transplantation who achieved a complete response after first line therapy with venetoclax + hypomethylating agents.

Valuation is a Highly Risk-Adjusted CHF 73m

Synimmune have a P2-ready haematology drug with a potentially differentiated profile and proven mechanism of action. It is also targeting a new indication within AML that other FTL3 drugs have not targeted. There is around a 20k incidence of AML in the US each year, with FLYSN targeting the 30% with FLT3 mutations who enter complete remission and are ineligible for stem cell transplantation. This is a sizeable population and at orphan drug pricing of $200k implies a US market size of $1.2bn, though we would expect a relatively low penetration given the elderly, frail population setting and the fact that they are in complete remission so the tolerance for side effects will be low. However, even a conservative 10% penetration globally would imply peak sales of $240m, which we risk adjust down to 30% to account for clinical trial risk ($72m). An NPV of expected cash flows gives us our valuation of CHF 73m. This implies Xlife's stake is worth CHF 27m, or CHF 5.18 / share. We assume:

- Launch in 2028 and no sales after 2039 (12 years on market)
- Ramp-up to peak sales takes 6 years
- We use a tax rate of 20% and a WACC of 7% as we have already used risk-adjusted forecasts
- Synimmune receives milestones of $200m (risk-adjusted down to 30%, or $60m) and royalties of 15%, but the partner pays cost of clinical development and commercialisation

Management

CEO – Dr Martin Steiner

Dr Steiner holds a Ph.D. in Microbiology and Genetics from the University of Vienna and a Master of Business Administration (MBA) from the University of Michigan. Prior to joining Synimmune, he was an independent biotechnology and Medtech consultant, founder and CEO of ImVisioN Therapeutics GmbH, EVAX Technologies and Apovia AG.

Founder and CSO – Dr Ludger Große-Hovest

Dr Große-Hovest holds a Ph.D. in Immunology from the University of Tubingen. Prior to founding Synimmune, he was the Principal Investigator for the GO-Bio Research Project, which was the basis for the foundation of Synimmune. He previously worked on developing novel strategies in cancer immunotherapy at the University of Tubingen.

Founder and Head of Operations – Dr Steffen Aulwurm

Dr Aulwurm holds a PhD in Immunology from the University of Tubingen. Prior to founding Synimmune, he was group leader for GMP-compliant antibody production at the University of Tubingen and Post Doc at the Hertie-Institute for clinical brain research.

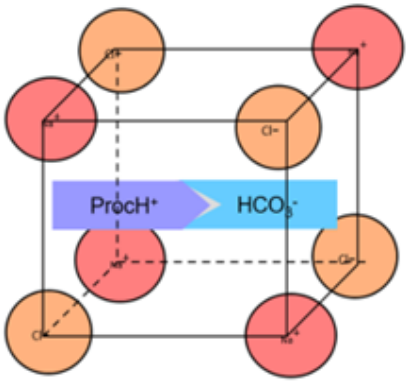
inflamed pharma (CHF3.55/Share)

Inflamed Pharma is a GMP-certified active pharmaceutical ingredient (API) manufacturer that produces, researches and develops new APIs. It focuses on formulation development for inaccessible molecules and optimising existing APIs. In particular, the company produces APIs based on the substance procaine, including its products ProcCluster, JenCurmin and 68DAZA. We value the company at CHF 25m, which is ~25% of the value of Marinomed, a commercial-stage company that solubilises and reformulates existing APIs to improve their properties. Through signing deals and winning regulatory approvals, we would upgrade the value by moving it closer towards Marinomed's market cap.

ProcCluster is an Improved Formulation of Procaine

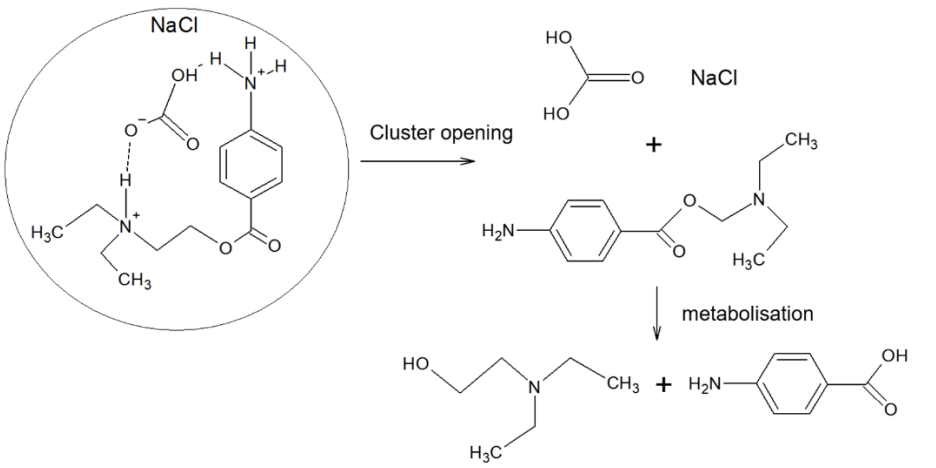
ProcCluster is a membrane-permeable formulation of local anaesthetic procaine, embedded in a mineral salt. Procaine has been used as a prescription medicine (capsule and ointment) since 2008, reversibly blocking the transmission of nerve fibres via voltage-dependant sodium channels mainly on C-nerve fibres and smooth muscle to produce analgesic and antiarrhythmic effects. With ProcCluster, the active substance is present as a hydrogen carbonate ProcHHCO3 (and not as chloride as with conventional forms). This enables multiple dosages of procaine to be dermally, orally and parentally applied. It is in development for indications including activated arthrosis, wound healing, ulcerative colitis, scleroderma and virology. In cell experiments coactivated with influenza virus, ProcCluster reduced viral load. The company aims to obtain approval for ProcCluster as an oral application in the next 3 - 6 years.

Chart 6: ProcCluster



Source: Company reports

Chart 15: ProcCluster metabolism

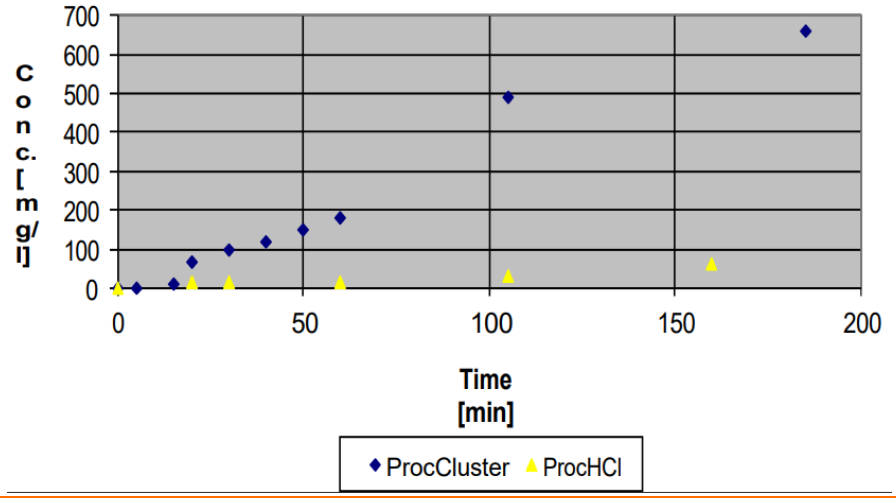


Source: Company reports

Enhanced properties vs traditional procaine

Procaine in the conventional form of procaine hydrochloride (ProHCl) has limits as a painkiller. ProcCluster, however, has optimised properties including the ability to improve microvasculature circulation, a physiological pH value, both hydrophobic and hydrophilic properties and therefore can penetrate tissues to act both locally and systemically. ProcCluster also acts synergistically with other drugs and can enhance the efficacy of other analgesics such as ibuprofen and morphine. As it allows for the use of a reduced dose to produce the same intensity of effect, the company's formulation has fewer side effects than ProHCl.

Chart 16: Intestinal membrane permeability of ProHCl vs ProcCluster



Source: Company reports

Table 17: Property comparison of ProcHCl vs ProcCluster vs Pure Procaine

Property	Procaine Hydrochloride	ProcCluster	Procaine
pH value	Unphysiological, 4.0	Physiological, 7.6	Basic
Water solubility	Hydrophilic	Ambiphilic,	Hydrophobic
			Highly soluble in organic solvents
Absorption	Low absorption	Permeation and penetration capable	Membrane-permeable
Synergistic effects with other analgesics	None	Synergistic	N/A
Duration	Rapid degradation in blood through cholinesterase	Long-term release, depot effect	N/A
Main use	Neural therapy and as a local anaesthetic in dentistry	Acts locally and systemically	N/A
Application	Parenteral	Parentally, orally, nasally, dermally	Not administered as a pure substance

Source: Company reports

ProcCluster clinical efficacy from real-world use

In the clinic, ProcCluster has been prescribed by 10 physicians regularly and 15 other less regularly over the last 10 years, with an average of 1,000 capsules per month being prescribed. The patients are mostly polymorbid individuals considered "out of treatment" with painful conditions such as chronic pain, cancer, post-operative and bone fractures. It is estimated that a third of patients receive multiple prescriptions and no side effects or complications have been reported by any of these users. An analysis of 208 patient questionnaires in 147

patients over 15 months found pain was reduced in 88% of patients and general well-being improved in 77%.

JenCurmin is an Improved Formulation of Curcumin

JenCurmin is a water-soluble formulation of curcumin that has increased bioavailability and fewer adverse events than traditional formulations of curcumin. Curcumin has anticancer, antiviral, antioxidant and anti-inflammatory properties. It has potential as a therapy for the prevention or treatment of various diseases including arthritis, allergies, Alzheimer's disease and other inflammatory-related illnesses.

Curcumin targets numerous pathways but has inconsistent data

Curcumin has powerful anti-inflammatory effects and is a strong antioxidant. It is thought to act via several mechanisms including the regulation of various molecular targets such as transcription factors. Clinically, curcumin has shown inconsistent outcomes, with trials concluding both benefit and non-benefit. However, many trials are small or poorly designed, which makes it challenging to glean insights. Of 314 studies examined in a metanalysis of RCTs, a third revealed significant positive effects of curcumin directly related to the primary outcome.

Table 18: Large curcumin RCT trials

Trial	N	Indication	Objective	Conclusion
Kuriakose 2016	223	Oral leucoplakia	Clinical response	Clinical response assessment indicated a better response with curcumin. No significant difference in dysplastic histology was exhibited vs placebo.
Lanjekar 2020	129	Oral submucous fibrosis	Symptom improvement	Significant improvement in symptoms in curcumin group
Ryan-Wolf 2018	57	Radiation-induced dermatitis in Breast Cancer patients	Severity of radiation dermatitis	Curcumin did not reduce radiation dermatitis severity
Bommelaer 2020	53	Crohn's disease	Prevention of endoscopic postoperative recurrence	No relationship found between curcumin levels and rate of endoscopic postoperative recurrence. Significantly more patients receiving curcumin had severe disease recurrence than placebo.

Source: Company reports

JenCurmin is an improved formulation with high bioavailability

A considerable barrier to the use of curcumin is its poor bioavailability, with many studies showing low concentrations in the blood post-administration due to poor absorption and rapid systemic elimination. Although the use of adjuvants such as black pepper and oil have increased its absorption, it is unclear whether this is therapeutically sufficient. JenCurmin's curcumin formulation has significantly improved cell membrane permeability and is water soluble, but does not use additives such as ethanol and DMSO for its preparation, meaning this formulation has less adverse events that conventional preparations. Additionally, no cell damage or cytotoxicity has been demonstrated in cellular systems by this formulation.

Table 19: Property comparison of curcumin vs JenCurmin

Property	Curcumin	JenCurmin
Bioavailable	Poor	Improved
Solubility	Insoluble	Soluble
Preparation	Solvents (e.g. ethanol, DMSO)	No ethanol and DMSO
Solubilisers	Solubilisers are necessary, which can cause undesirable adverse events	No use of critical solubilisers

Source: Company reports

68Ga-DAZA-1 is a Low Toxicity PET

DAZA is a liver-specific low-toxicity Positron Emission Tomography (PET) imaging agent used in patients with metal-heavy implants such as pacemakers. Inflamed's formulation is also simpler, cheaper to produce and requires lower amounts to be used for diagnostics. DAZA has been assessed in ova studies on the ostrich egg and has had a toxicity study conducted, although these results were inconclusive. Next steps involve GMP certification by the monitoring authority TLV, assessing the pharmacology of cold DAZA, as well as pharmacokinetics and dosimetry of radioactive DAZA in mammals. At present, stability studies are underway with the aim for GMP-certification in Q2 2023. This chemical could be marketed to 300 nuclear medicine specialists in DACH alone, with €1bn/year sales potential if centres in USA and Asia are included.

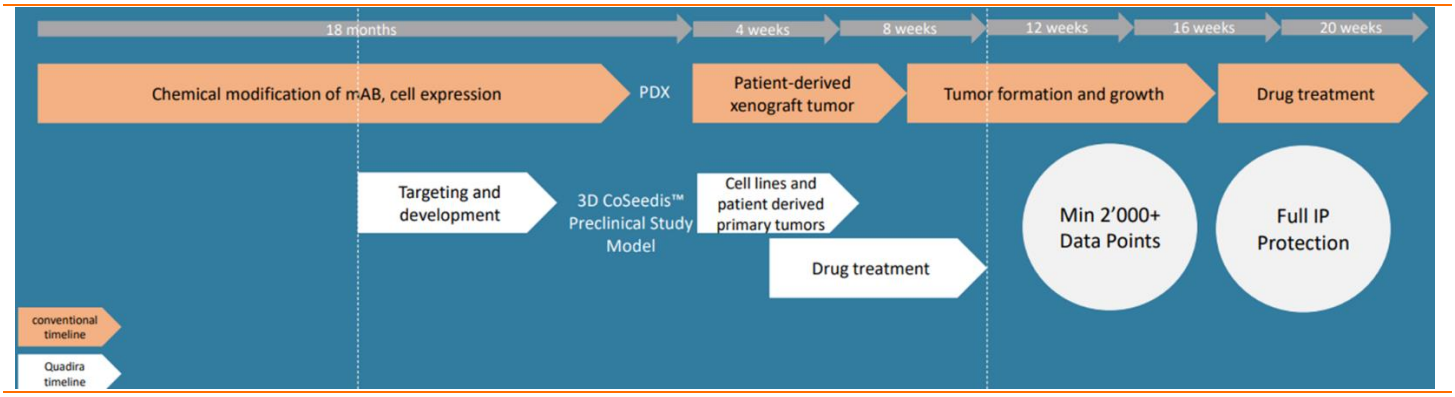
QUADIRA BIOSCIENCE (CHF4.73/Share)

Quadira develops novel antibody drug conjugates (ADCs) using technology platforms that complete designing, screening and preclinical studies rapidly using novel click chemistry and a physiological 3D approach. Using this approach, they have completed development and preclinical studies of 10 new ADCs, each within 4 months. Their lead asset is an anti-HER2 ADC, which is engineered to have a more efficient cancer-killing mechanism than Enhertu, which is rapidly becoming the standard of care in the space. The ADC market is one of great interest for Pharma players, as it allows oncology drugs to be more selective while delivering higher concentrations of anti-cancer payloads. We therefore are comfortable with a valuation of CHF 50m (well below established ADC companies, which trade around CHF 500-1,000m) for its attractiveness as a take-out target as well as its technology platform which can so rapidly develop new ADCs with desirable properties. Xlife's 50% stake is therefore worth CHF 25m, or CHF 4.73 / share.

QUADIRA's ADC Development is Accelerated

As we show below, the conventional timeline for developing ADCs is around 2 years, but Quadira have cut this down to 4 months.

Table 20: Quadira significantly accelerates preclinical ADC development

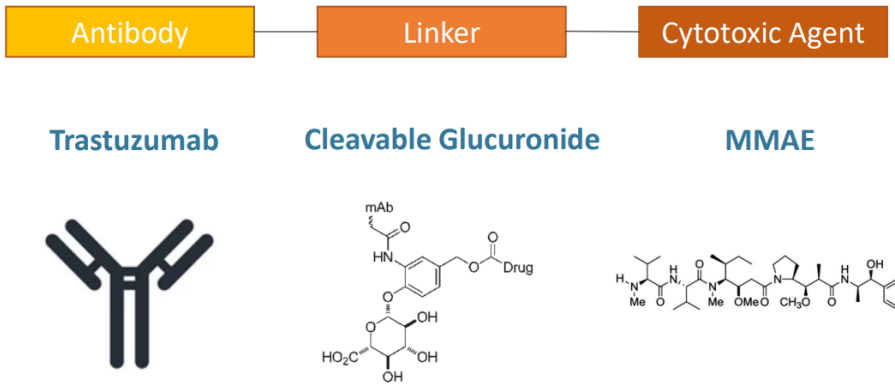


Source: Company reports

QBX-101-G is a HER2 ADC

The company's first asset QBX101-G is a HER2 ADC with superior antitumour efficacy against HER2-positive solid breast tumours and has shown improved toxicological tolerance preclinically. It is based on trastuzumab, with a new cleavable glucuronide linker and alternative cytotoxic agent MMAE conjugated at a new binding site.

Chart 7: QBX101-G structure



Source: Company reports

Preclinical data shows superiority vs Kadcyla

When compared to Kadcyla, QBX101-G showed superior *in vitro* and *ex vivo* activity in native HER2-expressing 3D micro-tumour mass models. This activity was confirmed by comparing the results of Kadcyla with published results in conventional CDX and PDX models. Additionally, QBX101-G has better tolerability, and with its improved efficiency index is expected to have more flexible dosing regimens. Quadira filed a patent in December 2021 for this asset and has completed stability testing of ADC linkers.

Competition is likely to be from Enhertu

QBX101-G has been tested against Kadcyla but not against the new standard of care, Enhertu. In our view, this will be a necessity to carry out at the preclinical and clinical stages of development as without superiority to Enhertu, we do not see how they can compete against AstraZeneca and Daichii Sankyo. One key difference is that Enhertu has a median drug-antibody-ratio (DAR) of 8, making it more cytotoxic than Kadcyla's 3.5 and QBX101-G's 1.9. Quadira believe this is likely to make the side effect profile of QBX101-G much stronger than Enhertu, but because it has a more efficient cancer-cell killing mechanism, the hope is that it can read out similar efficacy.

Licensing Terms

Quadira is looking to out-license QBX101-G for further development and commercialisation. The licensee will be responsible for any clinical development and the GMP production of QBX101-G.

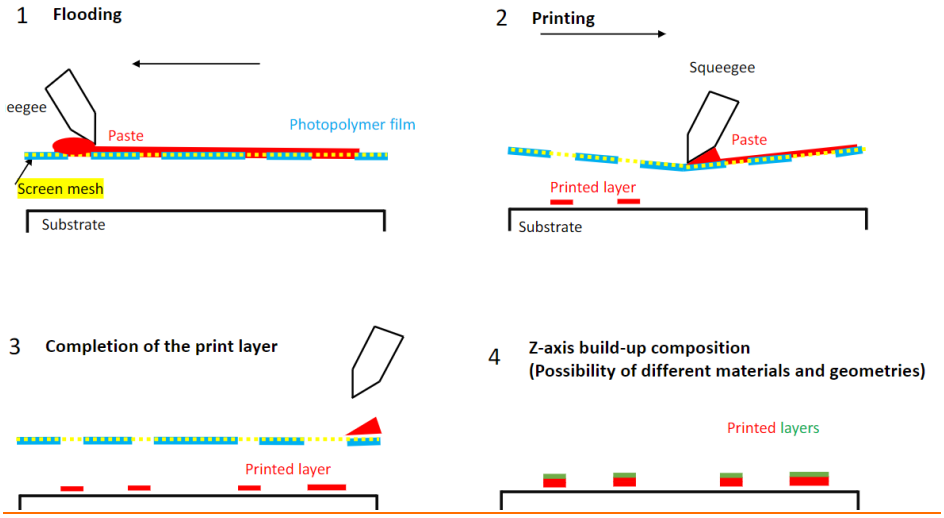
Axenoll Life Sciences (CHF0.66/Share)

Axenoll develops techniques for cellular 3D printing of biomaterials for the medical and biotechnological sectors. Their process is especially geared towards the industrial, large-scale production of materials involving living cells. Their portfolio includes a wide range of 3D products including wound meshes, micro scalpels, screening chips and human microtissue. These microarrays, printed membranes, medical sensors and organoids can be produced identically and in large quantities in variable forms and permeabilities. They also provide customers with a complete industrial printing process for the production of their product. Axenoll can manufacture the product for the customer themselves or alternatively grant sublicenses to customers who can then manufacture their own product. We value the company at CHF25m, or CHF 0.66 / share to Xlife's 14% stake.

Axenoll's 3D Printing Process

Axenoll's 3D printing can use live tissue as "ink", building up layers of tissue which can be used in screening, analytics and diagnostics. It can also reduce the requirement for animal testing. The company's cold 3D screen printing process consists of ink or paste (containing biological material) being pressed onto a screen through a mesh, followed by a hardening step. This is repeated many times to form layers, with layer-on-layer printing repeated until a 3D piece of bespoke specifications is manufactured. The complexity of the printed pieces can be further increased by using screens with different layouts.

Chart 8: 3D screening printing process



Source: Company reports

Axenoll's 3D printing has numerous advantages

Axenoll's process has several strengths including the ability to print fine structures of size 50 µm, has no requirement for supporting structures, meaning postprocessing is unnecessary and it can be scaled up easily. It is also inexpensive, conforms to clean room specifications and is highly repeatable. Axenoll's screening printing specialist, Lucas Langenfeld, is one of the few printmasters in Germany and brings his expertise in overseeing the screen printing process including preparing stencils and mixing and loading the biologically active screen ink.

Table 21: Strengths and limitations of 3D screen printing technology

Strengths	Limitations
Wide choice of material that can be used: metals, ceramics, polymers, biopolymers	Prints preferably flat structures up to 1cm, with max height 4cm
Possible to have mixed layers of different materials	Technology is not economical for production of individual items
Can print fine structures of 50 µm like channels, closed cavities, and free-standing overhangs	Limitations with materials that require high printing temperatures like thermoplastics, as high temperatures would kill living tissue
Minimal material waste during continuous production	
No need for supporting structure; postprocessing not needed	
Uncomplicated design and data processing; 3D structure is manufactured using 2D screens	
Direct monitoring of printed items during printing via in-process controls	
Flexible and cost-effective changing in geometry of working tool and screen	
Fast and uncomplicated scaling up due to modular construction of printers	
High precision and repeatability	
Suitable for industrial production – mass customisation	

Source: Company reports

Several Projects in Pipeline

Axenoll is working on several projects including a novel 3D matrix for burn wounds, a collagen-based regenerative bone replacement material, a 3D printed bile duct scaffold composed of BNC and silicone sealings for integrating microfluidic Point-of-Care cartridges.

Table 22: Current projects for Axenoll

Project	Description
3D matrix for burn wounds	• 3D biocompatible matrix for wound management of 2nd and 3rd degree burns • Collaboration with the burn centre at Bergmannstrost Hospital in Halle
Collagen-based regenerative bone replacement materials	• Collagen foam for orthopaedic and dental applications to enable the construction of a regenerative bone replacement without the need for donor bone • Material for an industrial client using collagen and β-TCP • Participation on future sales of such collagen-based products using Axenoll's 3D screen printing technology
BNC bile duct scaffold	• Currently, it takes 2-3 weeks to produce surgical bile duct scaffolds composed of bacterial nanocellulose (BNC) • 3D printed BNC structures could significantly speed production • Collaboration with spin-off from University Hospital Jena
Microfluidics Point-of-Care cartridges	• Co-development project to develop and industrialise production process of 3D printed silicone sealings for the integration of sensors on microfluidic POC cartridges • Existing production processes are currently not suitable to target small-to-mid sized batches • Supported by government funding until June 2023

Source: Company reports

Valuation

Most cellular bioprinting companies are private (e.g. Digilab, Cyfuse, Aspect Biosystems), but Organovo Holdings is a good listed comp for Axenoll, with just $1.5m in top line revenues (royalties) and still in the early stages of development. It is currently valued by the market at $25m and we assign the same value to Axenoll. This would value Xlife's stake at CHF 3m, or CHF 0.66 / share.

Management

Managing Director – Simon Madej

Simon graduated from the Stockholm School of Economics and holds a Masters degree in Economics & Business, Finance and International Business. He has previously held positions including that of Executive Director of HSH Nordbank and Director of HSH Corporate Finance. He has also previously worked at UBS Investment Bank.

R&D Biotechnologist – Dr Dana Elster

Dana is an R&D Biotechnologist at Axenoll, holding a PhD in Molecular Biology from the Friedrich Schiller University Jena. She previously held scientific positions at the Fritz Lipmann Institute.

Lysatpharma GmbH (CHF0.81/Share)

Lysatpharma develops extracellular vesicle-based therapies for use in regenerative medicine and as immunotherapies. Their programme is developing novel biologic immunotherapies for diseases of systemic inflammation such as rheumatoid arthritis, multiple sclerosis, ALS and graft vs host disease. Lysat has 4 pipeline assets in preclinical development. We value the company at CHF 17m, so Xlife's stake is worth CHF 4m, or CHF 0.81 / share.

Using Extracellular Vesicles to Fight Inflammation

Extracellular vesicles (EVs) are secreted by all cells of the body and are found in all bodily fluids. When secreted by a healthy cell, they can be absorbed by unhealthy cells, where they may initiate regeneration. Lysat's EV-based products use bioactive components that are extracted out of surplus high-quality tested blood products that would otherwise be discarded. The unmodified vesicles from human platelet concentrates (hPLEV) are then used in Lysat's preclinical development projects.

Pipeline consists of four preclinical assets

Lysat is targeting a variety of inflammation-driven diseases with its four preclinical assets as in the table below.

Table 23: Lysat pipeline

Asset	Indication	Stage
LPRA-01	Rheumatoid arthritis	Preclinical
LPMS-02	Multiple sclerosis	Preclinical
LPGVHD-03	Severe graft vs host disease	Preclinical
LPALS-04	ALS	Preclinical

Source: Company reports

Preclinical validation of hPLEV biological activity

Lysat has generated promising *in vitro* data. When assessed in a mouse model of induced arthritis, an anti-inflammatory effect was demonstrated repeatedly and with good tolerability. Further *in vitro* test results in activated human immune cells revealed strong inhibition of several proinflammatory cytokines in the presence of hPLEVs, including TNFα, a known proinflammatory mediator in systemic and local inflammation. Lysat intends to conduct two additional preclinical studies using animal models for inflammatory-driven diseases: multiple sclerosis and graft vs host disease.

Serious competition is minimal at present

At present, there are about 50 market competitors in the EV industry, but only 26 are EV/exosome-specialised. Of these, there is only one company, Exopharm, which is a true competitor to Lysat, as it develops EVs from mesenchymal stem cells for regenerative and immunomodulatory treatments. These types of treatment are therefore

at quite a nascent stage of development and Lysat is currently at the forefront of research in the space.

Valuation is CHF17m

We choose to value Lysat in line with its closest competitor, Exopharm, which has a public valuation of AUS$25m, or around CHF 17m. This values Xlife's 25% stake at CHF 4m, or CHF 0.81 / share.

Management

Managing Director – Frank Plöger

Dr. Frank Plöger studied biology in Mainz, Germany, and received his doctorate in Alzheimer research. After completing his post-doc at the Centre for Molecular Neurobiology Hamburg, he worked in several different biotechnology and pharma companies including Aventis, Biopharm, Sandoz/Hexal and Evonik. He is a certified project manager and has been working in R&D, BD and patent management for over 20 years.

Scientific Lead – Kyra de Miroschedji

Ms de Miroschedji manages the start-up's R&D laboratories, is responsible for invention development and coordinates funding programmes. Previously, she focused on molecular and developmental biology at the Heinrich-Heine University in Düsseldorf, worked for several years in stem cell research and is a qualified auditor.

Medical/Technical assistant – Ulrike Korner

Ulrike Korner completed her training at the Medical School of the Friedrich Schiller University in Jena and has several years of experience in the field of routine diagnostic laboratories. Previously she worked in institutions including the Hans Knöll Institute and the Institute for Molecular Biotechnology Jena.

Long Tail of Co's Valued at CHF20m

We group the remaining companies together as we believe the valuations are mostly immaterial at present. We assign a valuation of zero to seven companies that we feel are either too risky or speculative to give a positive value. There are a further nine companies for which we allocate a combined value of CHF 20m, as we believe some of the ideas have great potential, but there is a lack of data or validation for us to advance the valuation any further.

Table 24: Summary cap table for Xlife

Company name	Valuation (CHFm)	Xlife stake	Xlife valuation (CHFm)	Per share (CHF)
Ix Therapeutics GmbH	0	50%	0	0.00
Inventum Genetics GmbH	0	100%	0	0.00
alytas therapeutics GmbH	0	51%	0	0.00
clyxop devices GmbH	0	70%	0	0.00
x-nuclear diagnostics GmbH	0	100%	0	0.00
Xsight Optics GmbH	0	80%	0	0.00
panmabs GmbH	0	35%	0	0.00
Other*	20	63%	13	2.38
Total	**20**		**13**	**2.38**

Source: Company reports, Intron Health estimates

** Baliopharm, Xarma Life Science, Xprot, Novaxomx, Novum Tech, Saniva Diagnostics, Vitruvia Medical, X-kidney, X-Diagnostics*

Ix Therapeutics

A result of a spin-off from Indivumed, Ix Therapeutics is a precision oncology company that develops oncology antibodies, with an initial focus on colon and lung cancers. The company combines insights from IndivuType's multi-omics database containing over 4k patient datasets with the AI-advanced data analytics platform to discover and validate novel targets and place them in a biological and clinical context. It then works closely with Veraxa to screen and develop potent antibodies against the newly discovered target. To date, the company has identified three potential GCPR targets in colorectal cancer and discovered two antibodies to hit these. Given the lack of validation or data that we have seen, we value these discoveries at zero for now.

Extensive Data and AI Coupled with Antibody Tech

The IndivuType database is a global multi-omics cancer database that integrates comprehensive clinical data from thousands of patients. This data includes whole genome sequencing, proteomics, transcriptomics and phosphoproteomics, all obtained under identical standardised conditions from each patient. The AI-Advanced Data Analytics Platform provides extensive insights into these cancer cohorts and individual patients to identify potential cancer targets. Once a target has been validated, Ix Therapeutics licenses the target from Indivumed and uses Veraxa's microfluidic screening technology to develop functional therapeutic antibodies.

Two Antibodies Discovered to Hit GPCR Targets

Three potential GPCR-targets for colorectal cancer were identified *in silico* and Ix Therapeutics have now discovered two antibodies to target these through their collaboration with Veraxa. The next steps involve validating the antibody hits and filing patents for them. Following this, the company hopes to commercialise the antibodies via licensing deals with established Pharma companies.

Inventum Genetics

Inventum Genetics analyses human genetic data to identify biomarkers and new molecular targets for common diseases in which the DNA damage response plays a crucial role. This type of analysis goes beyond a traditional GWAS study because Inventum bridge the gap between a GWAS and the pathomechanism, which is often the reason for GWAS-discovered targets failing in the clinic. Inventum achieve this using transcriptional data from 500 subjects which can then be combined with genetic data to be data-mined. Their focus on DNA damage response alone has led to them developing an expertise in this area, but given the very early stage of their research and lack of validation, we do not currently include a value for this company.

alytas therapeutics

Alytas develops new immunological therapies for the treatment of pathological obesity. Adipocyte hypertrophy is a feature of dysfunctional fat tissue and is associated with elevated cellular stress, systemic diabetes and white adipose tissue senescence that leads to chronic inflammation. The company develops therapeutic antibodies that bind to a specific protein present on the cell membranes of hypertrophic adipocytes, which initiates an immunological reaction that leads to the selective degradation of these hypertrophic adipocytes. Alytas has identified 14 different antibodies targeting this specific protein in collaboration with Veraxa and is now looking for industrial collaboration partners with expertise in adipocyte physiology to characterise the functioning of the antibody candidates and identify the best one to take forwards for assessment in animal models. We currently value Alytas at zero given the lack of validation we have seen and the competitiveness of the Obesity space, but with positive preclinical data Alytas could be worth a material sum.

clyxop devices

Clyxop develops tubes composed of biocellulose (Gluconacobacter xylinus) that can bridge the space between damaged organs to stimulate tissue regeneration. These tubes can be manufactured in varying lengths, diameters and thicknesses according to the need. Currently the company is investigating the use of this technology in the reconstruction

of bile ducts, the replacement of which is necessary in 100k patients globally per year. The biocellulose tube can act as a bile duct substitute bridge and be removed after 12 weeks, after tissues have regenerated. The first *in vivo* trials in pigs for bile duct replacement have been conducted successfully, with the company now looking for methods to improve production. They aim to out license or co-develop the product commercially. Clyxop believe this technology could be expanded to vascular prosthesis, circulation after burn injuries, reconstruction of tracheal defects and abdominal wall replacement for hernias. We have yet to see any preclinical data for their technology, so we currently do not assign a value to this investment.

x-nuclear Diagnostics

X-nuclear researches technologies in diagnostic applications in nuclear medicine. It is currently developing a liver-specific PET tracer 68Ga-DAZA-1, in collaboration with Inflamed Pharma. DAZA is a liver-specific Positron Emission Tomography (PET) imaging agent that is less toxic and be used in patients with metal-heavy implants, such as pacemakers. Their formulation is also simpler, cheaper to produce and dosed at a lower level. DAZA has been assessed in ovo studies on the ostrich egg and has had a toxicity study conducted, although these results were inconclusive. *In vitro* stability studies in PBS and human serum confirmed the kinetic inertness of the tracers as no 68Ga demetallation was observed over a period of 4 hours. Next steps include extended and single-dose toxicity animal studies, GMP certification by the monitoring authority TLV and exploratory first-in-human studies. At present, stability studies are underway with the aim for GMP-certification for the PET tracer API in H2 2023. Commercially, this chemical could be marketed to 300 nuclear medicine specialists in DACH alone, with €1bn/year sales potential if centres in USA and Asia are included. We assign a value of zero to this company at present as we have considered this asset as part of Inflamed's value.

Xsight Optics

Xsight develops devices for the contactless monitoring of health parameters in the medical sector. Vitus is a mobile handheld optical sensor that records heartrate, oxygen saturation, body temperature and respiratory rate. These are measured via an integrated optical sensor and analysed via AI-based algorithms. The product is being developed for clinical applications such as new-born monitoring and potentially has other applications, such as mobile stations in pharmacies and stress monitoring in the security sector. This is currently quite a speculative investment in a competitive space and so until we see any commercial collaborations or sales, we assign no value to this investment.

panmabs

Panmabs develops and licenses various anti-viral and antibacterial drug candidates. Their portfolio includes monoclonal antibodies, antibody drug conjugates (ADCs) and small molecules active against viral or bacterial pathologies. Their current partnerships aim to generate neutralising antibodies against COVID-19, influenza ABC, hepatitis C and multi-drug resistant bacteria. Due to the very early stage of their research and lack of validation, we do not currently include a value for this company.

Xlife Earnings to be Driven by Transactions

For an IP company where all the value is in its equity investments, we expect the majority of revenues and earnings to come from transactions in those companies. The historical Xlife P&L performance is largely a reflection of accounting treatment on the investments (i.e. non-cash gains and losses). It is not possible to forecast these movements nor is it helpful to understand the health of the company, so we have assumed no gains or losses over the forecast period. The opex lines forecasted to grow at 5% p.a. At the end of November 2020, Xlife issued a convertible bond by converting existing loans. These bonds mature in June 2029 and pay 0.25% p.a. but the founders have agreed not to convert any more until expiry, so there will be no more dilution until then, meaning the only cash injections will come from investment exits, or potentially debt. We assume debt raises starting in 2024 to fund opex costs but in reality these costs are likely to be met with cash from exits, especially in outer years.

Free Float Set to Improve Over Time

Xlife's free float is currently under 50%, but we believe that liquidity will improve over time as the founders looks to sell down some of their stake to improve liquidity.

We see 43% Upside to Current Price

With the value of project companies being CHF 281m and the platform valued at CHF 25m, we add net cash of CHF 5.6m to this but must subtract the convertible bonds and loans on the balance sheet, worth CHF 62m to the founders. This values the whole company at CHF 250m and we use the 2023 average share count as the denominator to take account of the Feb-22 and subsequent share issuances. Our target price for Xlife is therefore CHF47/share.

Table 25: Company valuation shows 43% upside

CHFm	
Project companies value	281.1
Platform	25.0
Net cash (2022)	5.6
Convertible bonds/loans	-61.6
Company value	**250.0**
Shares (2023)	5,283.7
Value per share (CHF)	**47.3**
Price target (CHF)	**47.0**
Share price (CHF)	32.9
Upside	**+43%**

Source: Intron Health estimates

Board and Management

CEO – Oliver R. Baumann

Oliver Baumann graduated in business administration from the Business School Zurich, followed by further education at the Höhere Fachschule Bank & Finanz. He began his career at Credit Suisse, where he focused on investment advisory and trading for institutional investors in different asset classes and sectors such as Biotech and Medtech, and then worked for ten years in various management positions, including as CEO at Belvoir Wealth Management. He joined Xlife in July 2019, where he now serves as CEO and as a member of the Board of Directors. In addition to his position within Xlife, he is member of the board of directors of Pecunica Solutions AG, as well as of some of the Xlife companies.

Chairman – Bernhard Scholz

After his studies in Economics and Philosophy as well as his work as a research assistant, Dr Scholz worked as a self-employed consultant. Since 1991, he has worked in different positions in banks, including in organisation/IT and real estate financing. From 2004 to 2017, Dr Scholz was member of the Board of Directors of Münchener Hypothekenbank e.G. and of pbb Deutsche Pfandbriefbank AG. Since 2017, he has been working as a self-employed consultant and holds several mandates in finance and real estate. He was appointed as the Chairman of the Board of Directors in September 2019.

CFO – Carl von Halem

Carl Ferdinand von Halem studied economics at the Technical University Berlin and received his degree as Diplom-Volkswirt (Master). He has a background in consultancy, renewable energy and the finance industry.

CSO – Frank Plöger

Dr. Frank Plöger studied biology in Mainz, Germany, and received his doctorate in Alzheimer research. After completing his post-doc at the Centre for Molecular Neurobiology Hamburg, he worked in several different biotechnology and pharma companies including Aventis, Biopharm, Sandoz/Hexal and Evonik. He is a certified project manager and has been working in R&D, BD and patent management for over 20 years. He was appointed as CSO in November 2020.

Financial Statements

Group P&L

Table 26: Xlife Group P&L

CHF (000s)	2020A	2021A	2022	2023	2024	2025	2026	2027
Revenue	**396.8**	**806.1**	**846.4**	**888.7**	**933.1**	**979.8**	**1,028.8**	**1,080.2**
growth		**103%**	**5%**	**5%**	**5%**	**5%**	**5%**	**5%**
Third-party services	-422.4	-446.9	-469.3	-492.8	-517.4	-543.3	-570.4	-599.0
growth		6%	5%	5%	5%	5%	5%	5%
Gross profit	-25.6	359.1	377.1	395.9	415.7	436.5	458.3	481.3
Gross margin	-6%	45%	45%	45%	45%	45%	45%	45%
Other income	0.0	18.9	0.0	0.0	0.0	0.0	0.0	0.0
Personnel expenses	-1,190.1	-2,480.0	-2,604.0	-2,734.2	-2,870.9	-3,014.5	-3,165.2	-3,323.4
growth		108%	5%	5%	5%	5%	5%	5%
Admin expenses	-1,816.6	-3,064.4	-3,217.6	-3,378.5	-3,547.4	-3,724.8	-3,911.0	-4,106.5
growth		69%	5%	5%	5%	5%	5%	5%
D&A, impairments	-61.0	-66.7	-99.7	-55.8	-42.7	-43.6	-44.4	-45.3
EBIT	**-3,093.3**	**-5,231.3**	**-5,544.1**	**-5,772.5**	**-6,045.2**	**-6,346.2**	**-6,662.2**	**-6,993.9**
EBIT margin	**-780%**	**-649%**	**-655%**	**-650%**	**-648%**	**-648%**	**-648%**	**-647%**
Financial expenses	-227.2	-906.7	-484.6	-484.6	-516.1	-547.5	-579.0	-610.4
Financial income	40.2	381.9	74.0	115.8	149.6	174.2	188.9	193.3
Profits from financial assets	24,311.5	42,996.6	0.0	0.0	0.0	0.0	0.0	0.0
Loss from financial assets	0.0	-61,118.2	0.0	0.0	0.0	0.0	0.0	0.0
Bargain purchases	0.0	78,045.6	0.0	0.0	0.0	0.0	0.0	0.0
Associates	165.2	-971.3	0.0	0.0	0.0	0.0	0.0	0.0
Pre-tax profit	21,196.3	53,196.6	-5,954.7	-6,141.3	-6,411.6	-6,719.5	-7,052.2	-7,411.1
Income tax	-94.6	80.5	0.0	0.0	0.0	0.0	0.0	0.0
Tax rate	-0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Net profit	**21,101.7**	**53,277.1**	**-5,954.7**	**-6,141.3**	**-6,411.6**	**-6,719.5**	**-7,052.2**	**-7,411.1**
Minorities	-359.3	-143.2	-200.0	-200.0	-200.0	-200.0	-200.0	-200.0
Net income	**21,461.1**	**53,420.2**	**-5,754.7**	**-5,941.3**	**-6,211.6**	**-6,519.5**	**-6,852.2**	**-7,211.1**
Number of shares (basic)	3,817.3	4,728.0	5,229.8	5,283.7	5,283.7	5,283.7	5,283.7	5,283.7
EPS (basic)	**5.62**	**11.30**	**-1.10**	**-1.12**	**-1.18**	**-1.23**	**-1.30**	**-1.36**
Net income ex-convertible bond interest	21,631.2	53,590.3	-5,584.6	-5,771.2	-6,041.5	-6,349.4	-6,682.1	-7,041.0
Number of shares (diluted)	5,906.0	6,187.8	6,689.5	6,743.4	6,743.4	6,743.4	6,743.4	6,743.4
EPS (diluted)	**3.66**	**8.66**	**-0.83**	**-0.86**	**-0.90**	**-0.94**	**-0.99**	**-1.04**

Source: Intron Health estimates

Group Balance Sheet

Table 27: Xlife group Balance Sheet

CHF (000s)	2020A	2021A	2022	2023	2024	2025	2026	2027
ASSETS								
Cash and cash equivalents	4,702.8	1,956.4	5,582.2	1,991.8	2,284.0	2,428.9	2,409.8	2,208.9
Trade receivables	223.3	282.8	338.5	355.5	373.2	391.9	411.5	432.1
Other receivables	73.7	200.8	200.8	200.8	200.8	200.8	200.8	200.8
Prepaid expenses	16.9	32.4	32.4	32.4	32.4	32.4	32.4	32.4
Current assets	**5,016.7**	**2,472.4**	**6,154.0**	**2,580.5**	**2,890.4**	**3,054.0**	**3,054.5**	**2,874.1**
Financial assets (equity)	2,873.7	61,195.4	61,195.4	61,195.4	61,195.4	61,195.4	61,195.4	61,195.4
Financial assets (loans)	2,201.0	3,603.3	3,603.3	3,603.3	3,603.3	3,603.3	3,603.3	3,603.3
Financial assets (projects)	175,157.4	95,452.8	92,542.0	89,485.7	86,276.5	82,906.9	79,368.8	75,653.8
Intangibles	192.2	316,671.0	317,176.1	317,676.1	318,176.1	318,676.1	319,176.1	319,676.1
PP&E	241.2	669.6	697.7	711.7	725.9	740.4	755.2	770.3
Non-current assets	**180,665.5**	**477,592.0**	**475,214.5**	**472,672.1**	**469,977.2**	**467,122.1**	**464,098.8**	**460,898.9**
Total assets	**185,682.2**	**480,064.4**	**481,368.5**	**475,252.6**	**472,867.6**	**470,176.1**	**467,153.3**	**463,773.1**
LIABILITIES								
Trade payables	335.9	378.3	507.8	533.2	559.9	587.9	617.3	648.1
Other liabilities	112.2	267.5	267.5	267.5	267.5	267.5	267.5	267.5
Transitory liabilities	2,678.1	1,683.8	1,683.8	1,683.8	1,683.8	1,683.8	1,683.8	1,683.8
Current liabilities	**3,126.3**	**2,329.6**	**2,459.1**	**2,484.5**	**2,511.1**	**2,539.1**	**2,568.5**	**2,599.4**
Other liabilities	193.3	496.8	496.8	496.8	496.8	496.8	496.8	496.8
Provisions	0.0	105.1	105.1	105.1	105.1	105.1	105.1	105.1
Convertible loans	0.0	29,362.7	29,362.7	29,362.7	29,362.7	29,362.7	29,362.7	29,362.7
Convertible bonds	52,218.0	33,608.2	32,263.8	32,263.8	32,263.8	32,263.8	32,263.8	32,263.8
Other long term debt	0.0	0.0	0.0	0.0	4,000.0	8,000.0	12,000.0	16,000.0
Deferred tax liabilities	0.0	94,943.1	94,943.1	94,943.1	94,943.1	94,943.1	94,943.1	94,943.1
Non-current liabilities	**52,411.3**	**158,515.8**	**157,171.5**	**157,171.5**	**161,171.5**	**165,171.5**	**169,171.5**	**173,171.5**
Total liabilities	**55,537.6**	**160,845.3**	**159,630.5**	**159,655.9**	**163,682.6**	**167,710.6**	**171,740.0**	**175,770.8**
Share capital	4,157.0	5,059.3	5,059.3	5,059.3	5,059.3	5,059.3	5,059.3	5,059.3
Reserves	104,951.3	131,695.1	134,214.0	128,072.7	121,661.1	114,941.6	107,889.4	100,478.3
Revenue reserve	21,061.9	74,480.4	74,480.4	74,480.4	74,480.4	74,480.4	74,480.4	74,480.4
Minorities	-25.6	107,984.3	107,984.3	107,984.3	107,984.3	107,984.3	107,984.3	107,984.3
Equity	**130,144.6**	**319,219.0**	**321,737.9**	**315,596.7**	**309,185.1**	**302,465.6**	**295,413.3**	**288,002.2**
Equity and liabilities	**185,682.2**	**480,064.4**	**481,368.5**	**475,252.6**	**472,867.6**	**470,176.1**	**467,153.3**	**463,773.1**

Source: Intron Health estimates

Group Cash Flow

Table 28: Xlife group Cash Flow

CHF (000s)	2020A	2021A	2022	2023	2024	2025	2026	2027
Earnings	**21,101.7**	**53,277.1**	**-5,954.7**	**-6,141.3**	**-6,411.6**	**-6,719.5**	**-7,052.2**	**-7,411.1**
Adjustments								
D&A and impairment	61.0	66.7	99.7	55.8	42.7	43.6	44.4	45.3
Change in financial assets	-24,311.5	-59,923.9	0.0	0.0	0.0	0.0	0.0	0.0
Other non-cash changes	3,382.2	3,285.5	3,200.3	3,304.0	3,446.6	3,606.1	3,783.4	3,979.5
Change in trade receivables	2,220.1	-59.6	-55.7	-16.9	-17.8	-18.7	-19.6	-20.6
Change in deferred income & other receivables	-7.3	-142.6	0.0	0.0	0.0	0.0	0.0	0.0
Change in trade payables	60.9	42.4	129.5	25.4	26.7	28.0	29.4	30.9
Change in leasing liabilities	-41.8	155.3	0.0	0.0	0.0	0.0	0.0	0.0
Change in deferred income & provisions	-2,652.8	-889.3	0.0	0.0	0.0	0.0	0.0	0.0
Interest received	3.6	101.4	74.0	115.8	149.6	174.2	188.9	193.3
Interest paid	-174.6	-218.1	-363.5	-363.5	-387.0	-410.6	-434.2	-457.8
Tax paid	-43.1	-17.1	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from operations	**-401.6**	**-4,322.3**	**-2,870.5**	**-3,020.6**	**-3,150.9**	**-3,297.0**	**-3,459.9**	**-3,640.5**
Capex	-30.0	-155.6	-132.9	-69.8	-56.9	-58.1	-59.2	-60.4
Payments for financial assets	-2,780.3	-1,840.5	0.0	0.0	0.0	0.0	0.0	0.0
Loans to related parties	-790.0	-2,199.8	0.0	0.0	0.0	0.0	0.0	0.0
Payments for intangibles	-192.2	-1,056.4	-500.0	-500.0	-500.0	-500.0	-500.0	-500.0
Acquisition of subsidiaries/associates	-72.3	-1,781.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from investment	**-3,864.7**	**-7,033.3**	**-632.9**	**-569.8**	**-556.9**	**-558.1**	**-559.2**	**-560.4**
Share issuance	7,056.8	9,359.5	7,127.5	0.0	0.0	0.0	0.0	0.0
Share issuance expenses	-573.4	-729.5	0.0	0.0	0.0	0.0	0.0	0.0
Debt raise	0.0	0.0	0.0	0.0	4,000.0	4,000.0	4,000.0	4,000.0
Disbursement for leasing	-54.8	-34.6	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing	**6,428.6**	**8,595.3**	**7,127.5**	**0.0**	**4,000.0**	**4,000.0**	**4,000.0**	**4,000.0**
Net change in cash and cash equivalents	**2,162.4**	**-2,760.3**	**3,624.1**	**-3,590.4**	**292.2**	**144.9**	**-19.1**	**-200.9**
Cash at beginning of period	**2,540.8**	**4,702.8**	**1,958.1**	**5,582.2**	**1,991.8**	**2,284.0**	**2,428.9**	**2,409.8**
Impact from FX fluctuations	-0.3	15.6	0.0	0.0	0.0	0.0	0.0	0.0
Cash at end of period	**4,702.8**	**1,958.1**	**5,582.2**	**1,991.8**	**2,284.0**	**2,428.9**	**2,409.8**	**2,208.9**

Source: Intron Health estimates

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Full 12-month historical recommendation changes are available on request

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