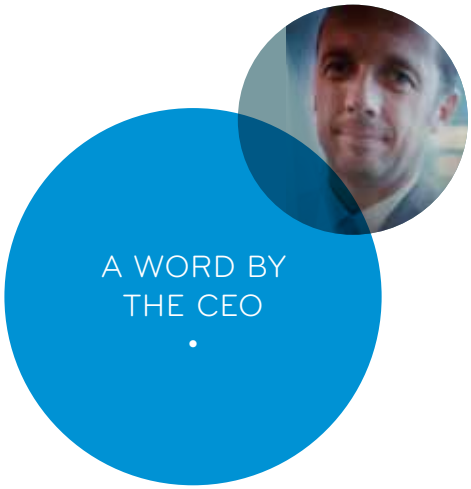
A GATEWAY TO ACADEMIC EXCELLENCE FOR BIOTECH AND PHARMA

Découpe



A WORD BY
THE CEO

Scientific excellence

has a need for translation. France and Germany currently boast internationally acclaimed fundamental research. To funnel their scientific excellence into application pipelines both countries now combine efforts in a new translational model, which addresses 3 critical issues:

First of all, translation has to connect between meaningful endpoints: what in essence needs linking up are unmet patient needs with life science excellence. A productive translational flow leading up to patient's needs can sustain a viable and growing model. Spanning a translational gap of this magnitude, however, requires a concerted effort by many sectors of the biomedical enterprise in France and Germany. Ksilink has stepped up to the task by creating a public private partnership connecting clinical and fundamental research centers with Biotech and Pharma. It allows for a coherent and comprehensive translational approach – and avoids the scientific and financial risks of partial solutions.

Secondly, the technological approach has to be up to the challenge. To link unmet needs with science excellence we must enable researchers and clinicians to input their competence and experience in the early, critical steps of therapy development. Here, recent advances in stem cell technology and genome editing help along the way: In combination with target-free, visual discovery approaches clinicians and researchers can now build highly relevant, patient-based disease models without the need for pre-defined targets. Beyond innovate drugs with novel MOAs the approach promises shorter development times and lower failure rates in Clinical Phase II. Ksilink is at the cutting edge of this development.

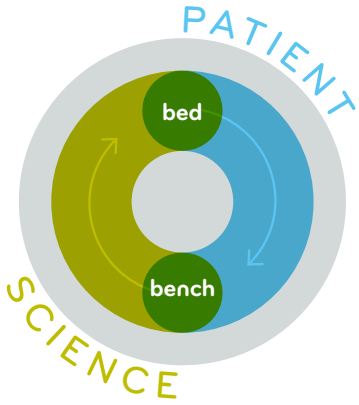
Thirdly, we need new rules of cooperation: That means lowering hurdles for partners to engage through financial incentives and co-investment opportunities. At the same time, we have to better protect owner value interests. By adhering to a more business-minded set of IPR and exploitation rules, we can recast the concepts of 'open innovation' into a financially tenable model, attractive to all stakeholders: Sufficient value generation and a balanced share between all participants will be key to effectively driving this effort. By addressing both points Ksilink opens opportunities in particular for small and medium companies to tap into France's and Germany's translational potential.

With Ksilink we have built a new translational center that build on the experiences of early translational models. It is designed to live up to the translational promise.

Dr. Ulf Nehrbass

A NEW TRANSLATIONAL MODEL...

Ksilink is a public private partnership that spans integrated therapy development from the 'bed to the bench, and back to the bed'. It functions as a program-specific investment fund with a dedicated development platform, and operates at the cutting edge of French and German development know-how.



DESIGNED TO ACCESS SCIENTIFIC EXCELLENCE AND DE-RISK INNOVATION

Ksilink engages excellent scientific programs carried out by clinical and academic partners, and brings them to our clients. Thus, Biotech and Pharma can readily access disease-relevant cellular models, novel drug candidates, and targets. Further, Ksilink's programs are de-risked through public funds, helping in particular small- and medium-sized enterprises (SMEs) to engage in innovative therapy development.

Connecting meaningful endpoints: Ksilink's comprehensive **translational effort**

Ksilink covers a wide translational gap that encompasses clinical research, development steps, and clinical trials. To handle the extended workloads, Ksilink has created a public private partnership that pools all the necessary competences.

AS A PUBLIC PRIVATE PARTNERSHIP...

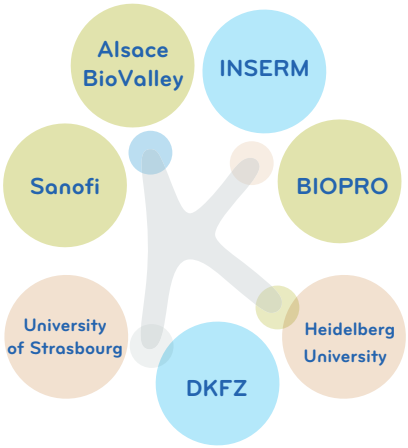
Ksilink & Partners: Ksilink has secured partners across a wide spectrum from both the private and public sectors. They stand for experience and excellence. Each has made groundbreaking therapeutic innovations in the past.

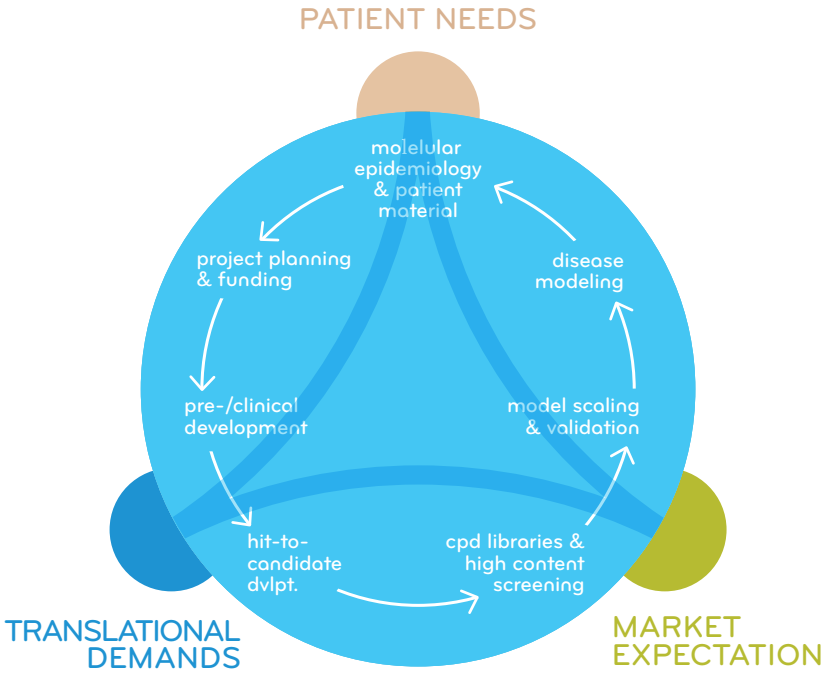
Clinical:
- Heinrich Lanz Center Mannheim
- National Center for Tumor Diseases Heidelberg
- Heidelberg University
- University of Strasbourg

Academic:
- INSERM
- University of Strasbourg
- Helmholtz Association of German Research Centers

Pharma:
- Sanofi
- Genzyme

Together, Ksilink and its partners span the full range of development competence, and effectively link patient needs to scientific excellence and back again, in a bed-to-bench-to-bed cycle that is truly unique.





KSILINK NAVIGATES AN INTEGRATED DEVELOPMENT APPROACH

The interdisciplinary approach of Ksilink provides seamlessly integrated program planning, where patient needs are aligned with the most advanced and feasible models. From the design of assay drug development strategies, over assay adaptation, screening hit to lead optimization and lead development up to the preclinical stages and beyond, Ksilink can effectively and reliably deliver. On-demand access to competence and resources will further accelerate the development process. Together, this model constitutes an ideal context for coherent translational flow.

Ksilink's Patient centered, **translational technology**

De-risking the science of therapy development
The use of patient-derived cellular models, and the systemic approach of identifying new targets through efficacious compounds constitutes a new chapter in drug development. With our partners, we develop innovative compounds faster, and with a higher chance of success.

Patient-centered disease modeling

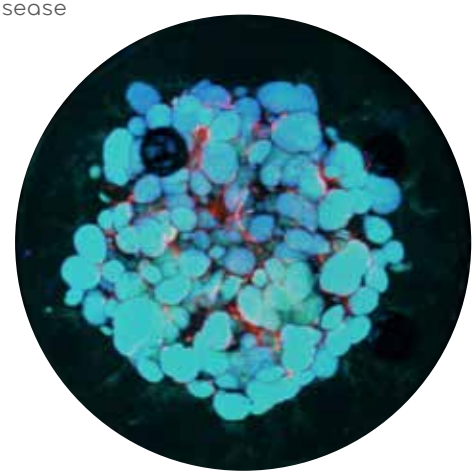
Ksilink is poised at the cutting edge of translational technology

1 PUTTING THE PATIENT IN THE CENTER:

Patient-derived material lies at the foundation of a new era of disease models with exceptional functional significance. Patient blood or skin samples can be used to generate induced pluripotent stem cells (iPSCs), that can, through a series of tightly controlled steps, be differentiated to produce relevant cell types. Numerous high profile studies have shown these cells can reproduce authentic cellular 'patho-morphometries' ex vivo, and thus are ideal for drug discovery. Such patient derived, differentiated material can be produced under industrial-scaled, standardized conditions, in a fully automated fashion.

2 3-DIMENSIONAL CELL CULTURES AND ORGANOIDS

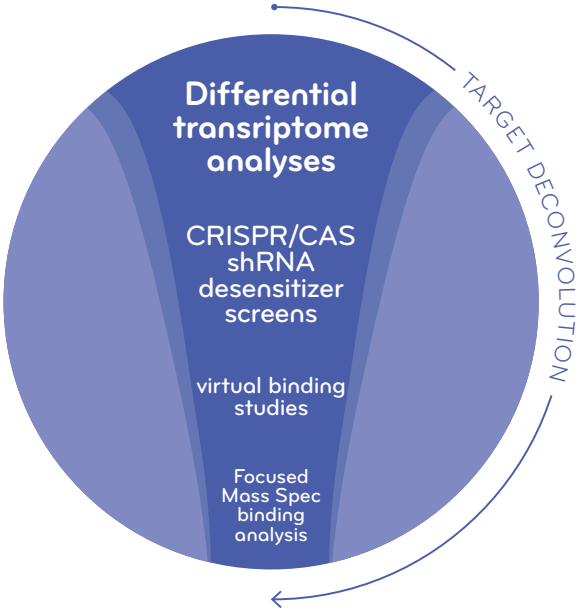
further increase the relevance of the disease model. iPSC-derived cell systems can be differentiated to replicate the complex 3D organization of adult tissues. This more closely reflects the environment in which the target cells exist in the patient. Ksilink operates a dedicated, micropillar screening system that can be used to screen 384 well organoid cultures, thereby enabling fast high-content screening procedures. Together with academic experts in organoid reconstruction, Ksilink is pushing the limits of disease modeling.



Visualizing and screening diseases live: using compounds to identify effective

3 **USING VISUAL SCREENING EQUIPMENT,** we identify chemical compounds capable of rescuing diseased cells and re-establishing a healthy phenotype. Such target-free screens allow Ksilink to observe how compounds work in living, patient-derived cells. Using accurate, multi-parametric imaging algorithms developed in-house, thousands of compounds can be rapidly queried for their ability to partially or fully re-establish a 'healthy' phenotypic profile. Compounds capable of thus 'curing' the patient-derived diseased cells are potentially of high functional value.

4 **IN KSILINK'S VISUAL APPROACH,** the compound itself identifies the most effective target. Once an effective compound is identified, a number of combinatorial approaches can then be used to identify cellular targets of the compounds. For instance, a differential transcriptome analysis in combination with genetic sensitizer screens can effectively zoom in on critical pathways affected by the compounds of interest.



First-in-class through leading discovery capacity

5 TARGET-FREE HIT AND LEAD OPTIMIZATION

Ksilink can leverage an established strenght - its world-leading expertise in hit to lead and lead to candidate optimization. We work with proven Pharma experts who have successfully brought X new molecular entities (NMEs) to the market. This expertise is paired with a large, proprietary compound library of 200,000 compounds, which is highly diverse and fully annotated. We subject hits that mediate a pharmacological rescue of diseased profiles to target-free optimization. In parallel, a combination of target identification technologies is being used to deconvolve targets and mechanisms of action underlying efficacious compounds.

X NMEs SINCE 2003

Ksilink's technology aims to excel at translational efficiency

Ksilink views disease modeling as a competitive game changer in future drug development. iPSCs and CRISPR/CAS gene editing technologies can build highly relevant disease models that directly reflect human disease at a patient-specific level. The use of such models is likely to positively impact attrition during Phase II efficacy studies. Our strategy for competitiveness, therefore, expands well beyond libraries and MedChem. Combined with our target free discovery platform, Ksilink will be well positioned to lead the way.

Engaging Ksilink's **translational capacity**

Financial de-risking of translational innovation
Effective translational flow is closely linked to financial opportunities and incentives for clients and partners to engage. Ksilink has therefore created an enabling environment beyond the technology dimension. We have put in place three key elements that will foster a dedicated translational business context.

1 KSILINK FOSTERS INNOVATION BY ASSIGNING IPR RIGHTS TO SPONSORS

Ksilink will assign IPR and exploitation rights to the client, putting its partners in full control of outcomes according to their own business strategies. In return, Ksilink expects fair compensation according to market standards. Such compensation can take the form of milestone payments and royalty shares, and can be back-loaded in order to align with the financial reality of its partners, in particular SMEs.

2 KSILINK'S PROGRAMS ARE SUBJECT TO FINANCIAL INCENTIVES

Workloads Ksilink performs for clients will attract public co-investments which can accrue up to 50% of the development costs. Such public co-investments are applicable to all workloads, from developing validated screening models to pre-clinical development stages, and are specific for clients from SMEs, academia or large pharmaceutical entities.

3 KSILINK HAS FUNDING TOOLS TO SUPPORT COLLABORATIVE PROGRAMS

When the cash needs for a comprehensive development program exceed a client's capacity, Ksilink can itself engage as a program-specific co-investor. In this manner, risk sharing deal structures can, in principle, alleviate all cash-in hand needs for the client. Ksilink thus will address client needs by functioning in two entirely different work modes: as a specialized service provider offering novel translational workloads, as a CRO with a significant discount, or as a program specific co-investor sharing the technological and financial risk of the development process.

Ksilink is an innovation engine in the heart of Europe

The Upper Rhine Valley shared by France and Germany boasts a life science work force second only to the Boston area, with over 600 Biotech companies,12 leading Universities and Academic research centers, and more than 100, 000 students. World leading Pharma companies and 14 techno-centers are all within a two-hour drive. As a core asset for aiding Ksilink's ultimate goal of improving patient care through translation, 150,000 inpatient and 240,000 outpatient visits are accessible in the more than 25 hospitals and medical institutes in the region.

Ksilink is leveraging this rich environment to take advantage of the most revolutionary technological innovations in biomedicine.

Together with the financial incentives and investment resources Ksilink is a flexible enabling partner, designed to meet the needs of SMEs for carrying out cost-effective innovation. Ksilink links clients to patient populations, technologies, and modeling know-how to make their programs a success in the new, technology-driven era of drug discovery.

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