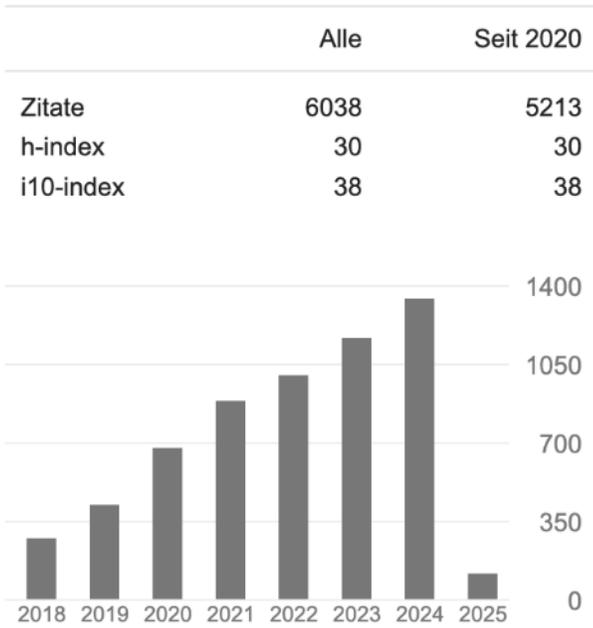


NEXT STEPS AFTER PHD

Dr. Philipp Geyer, MBA
Managing Director ions.bio

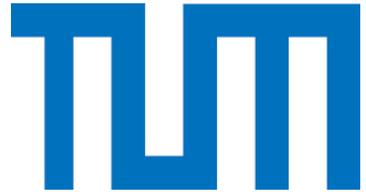
Overview

- **Working in academia**
- **Having a startup**
- **From startup to industry**

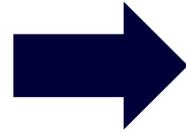


Science, Mountains, Fishing and Bavaria

My stages

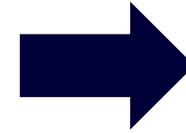


University



MAX-PLANCK-GESELLSCHAFT

PhD

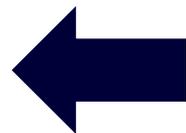


MAX-PLANCK-GESELLSCHAFT

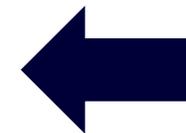
PostDoc



Founder



Research Director



Founder

MY TEAM



Laboratory Platform
Dr. Philipp Geyer, MBA



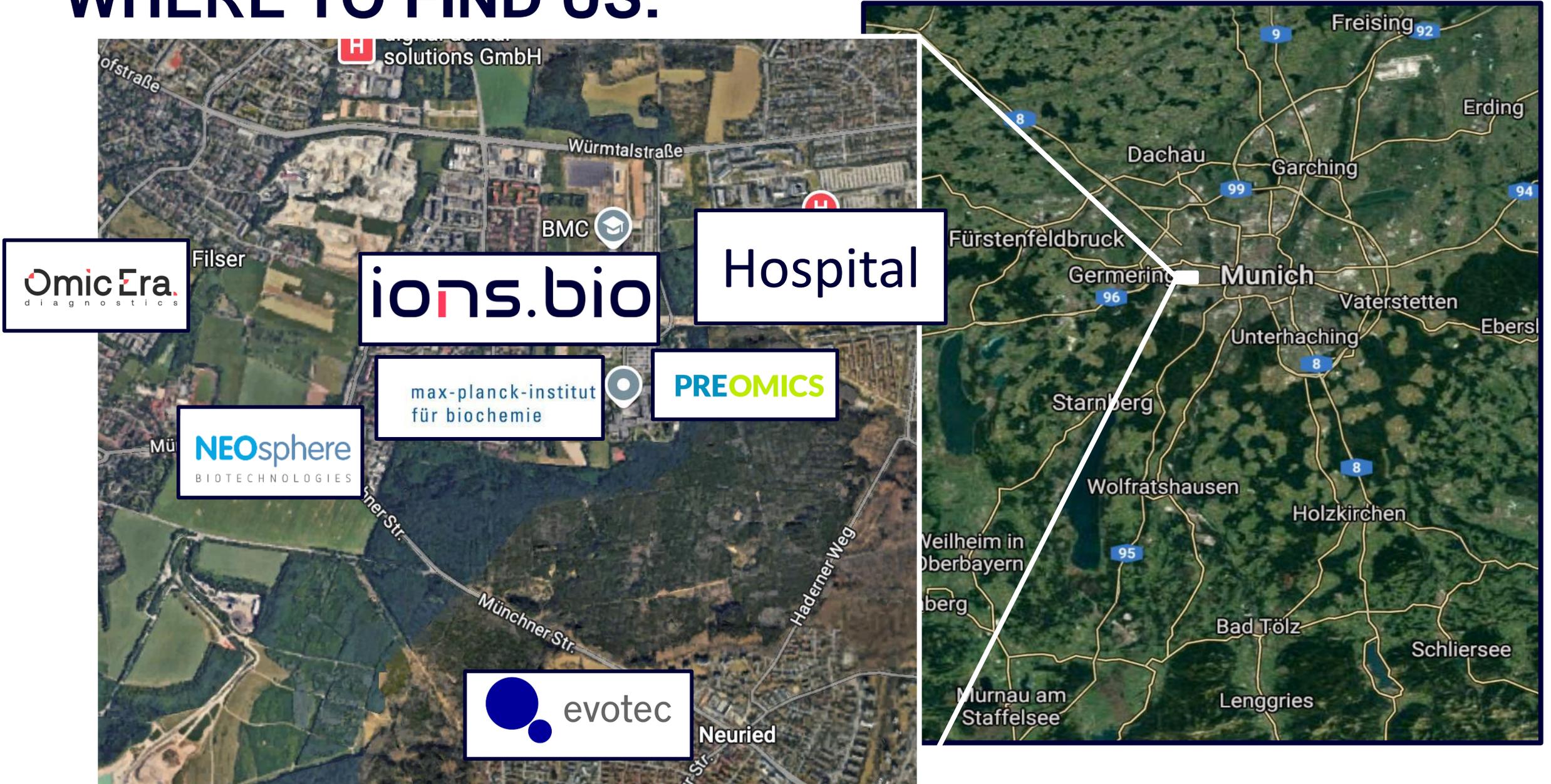
Bioinformatics and Software
Dr. Sebastian Virreira Winter



Business Development
Dr. Sophia Viellechner



WHERE TO FIND US:



Study

- Molecular Biotechnology
 - Study cooperation with Roche Diagnostics
 - Internships at Roche
- Bachelor: Bad experience with choleric PI 
- Masters: Research path thanks to a fantastic PI 
 - Mentor and friend
 - First paper
 - Strengthened research interest
 - Contact to future PhD supervisor



Large Molecule Therapeutics	Molecular Cancer Therapeutics
Gastric Adenocarcinomas Express the Glycosphingolipid Gb₃/CD77: Targeting of Gastric Cancer Cells with Shiga Toxin B-Subunit	
Philipp Emanuel Geyer ¹ , Matthias Maak ¹ , Ulrich Nitsche ¹ , Markus Per ¹ , Alexander Novotny ¹ , Julia Slotta-Huspenina ² , Estelle Dransart ^{3,4,5} , Anne Holtorf ¹ , Ludger Johannes ^{3,4,5} , and Klaus-Peter Janssen ¹	

PhD

- Prof. Matthias Mann, Max Planck Institute of Biochemistry
- Why:
 - Very nice guy
 - Cool research topics
 - Famous researcher



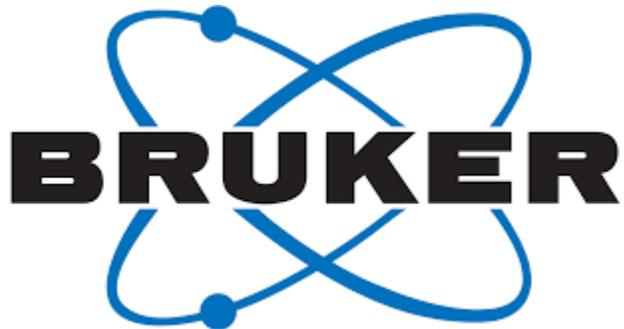
Risks of a famous group

- Too large group? → Yes, but you can find friends
- Competition? → You can build your own environment
- Not enough support? → Work hard and do a good job



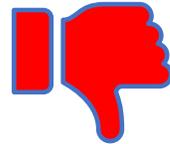
Chances of a famous group

- You can choose afterwards → Only if you work hard
- Interesting job
- Many connections
- Many collaborations
- Many conferences



PhD topic

- PhD thesis on apolipoproteins



- Changed to plasma proteomics → Field tossed the topic



Article

Cell Systems

Plasma Proteome Profiling to Assess Human Health and Disease

Graphical Abstract

Plasma Proteome Profiles

Protein 1

⋮

Protein n

State 1 State 2 State 3 State 4

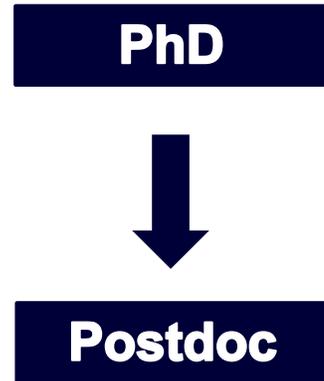
Authors
 Philipp E. Geyer, Nils A. Kulak, Garwin Pichler, Lesca M. Holdt, Daniel Teupser, Matthias Mann

Correspondence
 mmann@biochem.mpg.de

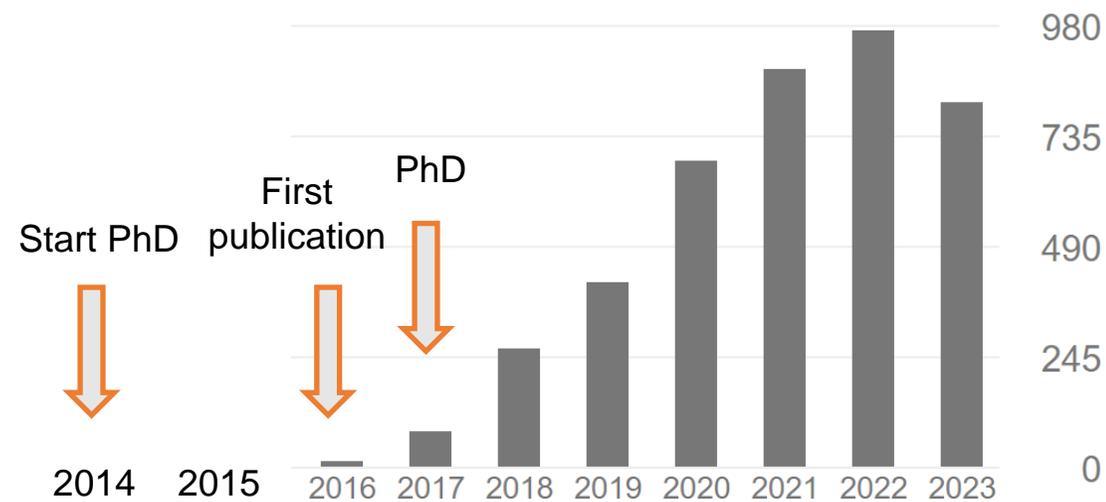
In Brief
 A rapid and highly reproducible proteomic workflow delivers a systemic-view proteomic portrait of a person's health state from a single drop of blood.

- Moving proteomics to the fast lane
 - Sample prep: 3 days → 1 h
 - Automation: 10 → 384 samples
 - Robustness: 30 → 1000s of samples

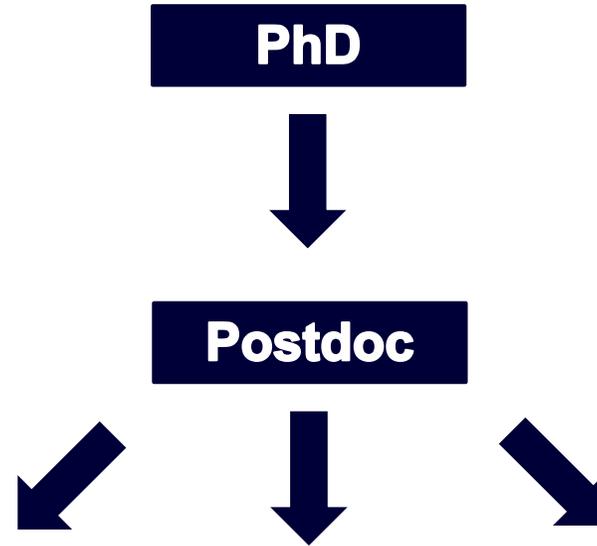
Career decisions



	Alle	Seit 2018
Zitate	4155	4042
h-index	25	25
i10-index	35	35

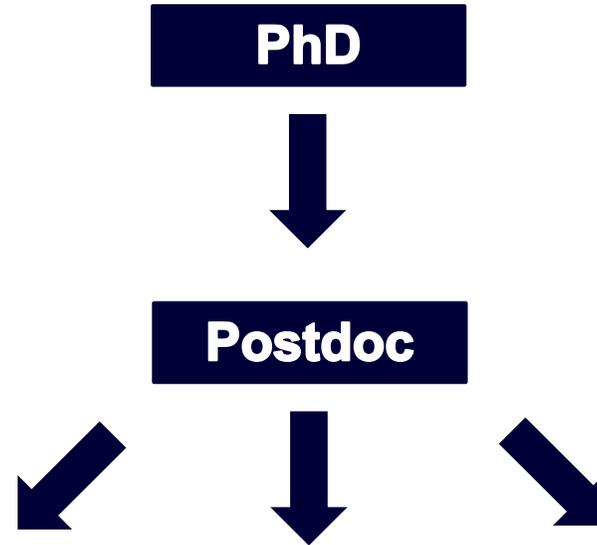


Career decisions



	Industry	Academia	Start-up
Salary	++	+	-
Free time	++	-	--
Research	-	++	-
Freedom	-	++	++
Fun	+	+	+

Career decisions



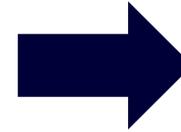
	Industry	Academia	Start-up
Salary	++	+	++
Free time	++	-	--
Research	-	++	++
Freedom	-	++	++
Fun	+	+	++

How to found a company in Germany



Financial Source

- Angel, VCs
- Grants
- Customers



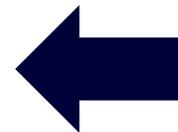
Lawyer and Contract

- Get a good lawyer
- Company structure
- Hold shares directly or indirectly (UG)
- Marriage contract
- Friends will be foes



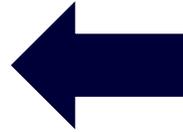
Notary

Managing director founds the company in person
Open bank account



Bank Account

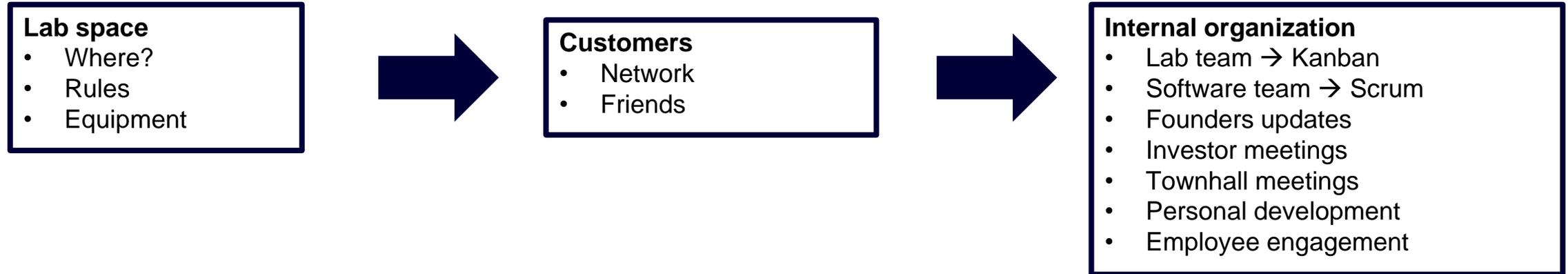
Which bank takes you?
Banks☹️
Pay registered capital e.g. 25k



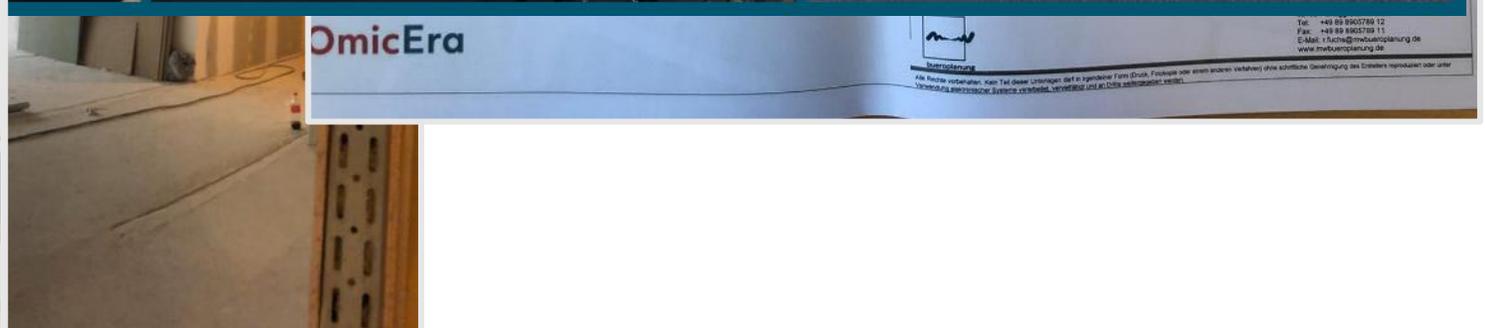
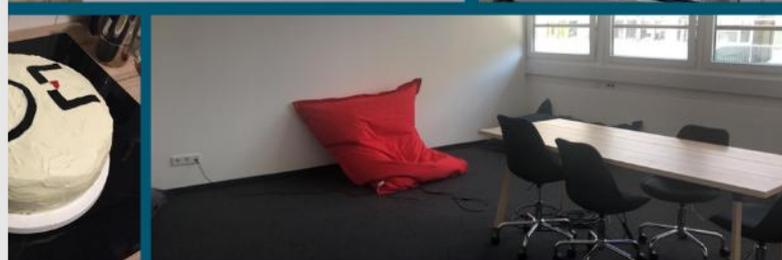
Tax ID

Get the ID

How to found a company in Germany



Find lab space



Business model



**Platform
access**



Technology platform

Sample preparation

Proteins → Peptides

This panel illustrates the initial step of the workflow. It features an image of a laboratory instrument used for sample preparation. Below the image, a diagram shows several red, tangled protein structures on the left, which are converted into smaller, linear peptide fragments on the right, indicated by a right-pointing arrow.

Liquid chromatography
Mass spectrometry

This panel shows two pieces of laboratory equipment: a liquid chromatography system on the left and a mass spectrometer on the right. The mass spectrometer is a large, blue and white machine with a prominent vertical column.

Spectra interpretation
Protein quantification

Intensity vs m/z

Intensity vs m/z

RT vs m/z

RT vs m/z

This panel displays the data analysis stage. It contains two mass spectrometry spectra at the top, each showing 'Intensity' on the y-axis and 'm/z' on the x-axis. Below these are two chromatograms showing 'RT' (Retention Time) on the x-axis and 'm/z' on the y-axis. A curved arrow connects the two chromatograms, indicating the correlation between retention time and mass-to-charge ratio for protein quantification.

Exit decision



OmicEra is now
part of Exact
Sciences

Together, we're working to make
earlier cancer detection possible.

- Shared vision with purchaser
- Focus on diagnostics market
- Improved financial situation to accelerate technology developments
- Access to experienced team with expertise/know-how in biomarker development and commercialization
- Fast and lucrative exit for founders
- Higher salaries for entire team
- Early exit: loss of potential upside
- Risk of increased bureaucracy and slow decision processes
- Dependency on executive decisions made somewhere else
- Less research



Aug
2024

Founding

Sept
2024

Office: 40 sqm

Oct
2024

Team growth: 9 employees

Dec
2024

Lab: 220 sqm

Business model



Comprehensive service: From sample to biomarkers – the entire value chain in one company

→ **Benefit:** Efficient project realization and faster biomarker development

Advanced technology: Utilizing 10x more data than state-of-the-art methods

→ **Advantage:** Higher chances of success

Superior quality assurance

→ **Outcome:** Increased likelihood of project success

Competitive pricing

→ **Cost-effectiveness:** In-house pipeline



Advices for founders

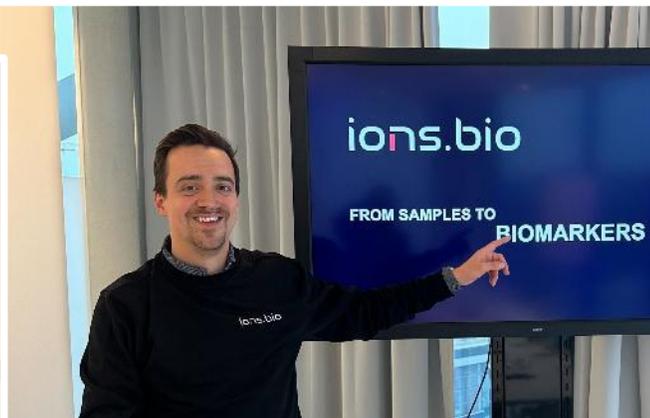
- Found only with friends and very good people
- You are responsible for everything
- Agree in the beginning within the founding team on what you want to do:
 - Company mission
 - Research
 - How to lead the team
 - Exit
- Don't make a secret of founding a company
- Take soft skills seriously and take classes (LinkedIn)
 - Leading a team
 - Project management
 - Negotiation basics → now
- Don't underestimate
 - Timeline for founding a company in Germany (~6 month)
 - Bureaucracy
 - Tax implications
 - Mistakes happen where they can – you are responsible

ions.bio

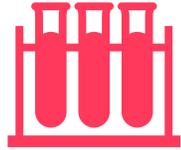
All-in-one biomarker solutions

Contact
geyer@ions.bio

WE BELIEVE IN PARTNERSHIPS



Business model ions.bio



Biosamples

Harmonized SOPs

Patient data

10,000s of biosamples



Deep Molecular Phenotyping

Cutting-edge mass spectrometry

1000s of proteins, metabolites and lipids



AI & Bioinformatics

Proprietary in-house software

AI

Integration of public and in-house databases

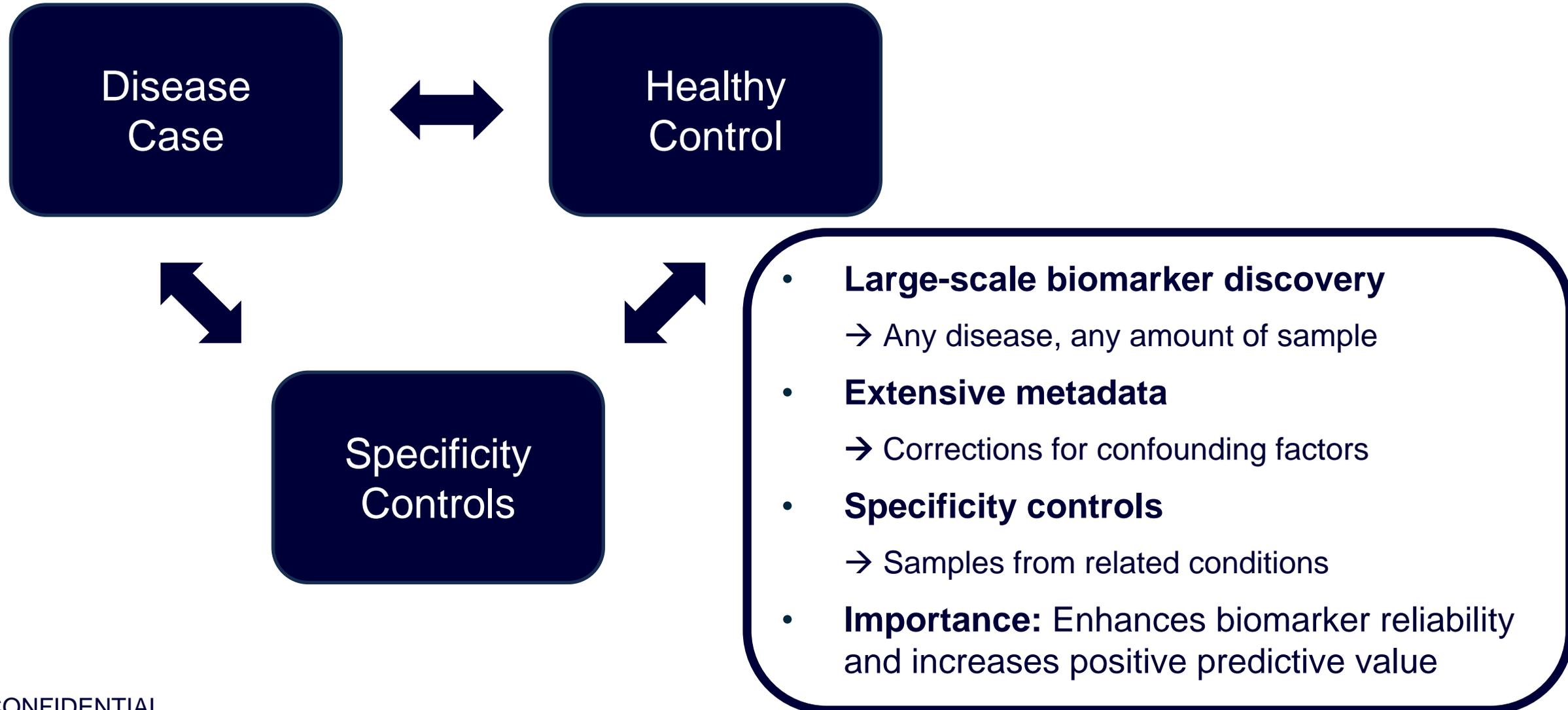
→ 2x success rate of biomarker projects

→ Faster biomarker development

ions.bio

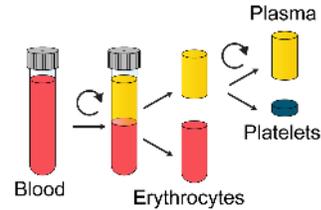
Additional information

REAL-WORLD EVIDENCE

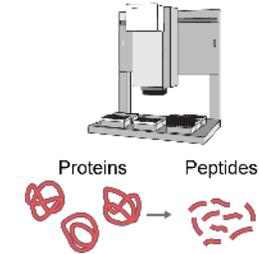


RIGOROUS QUALITY MANAGEMENT

Collection



Sample Preparation



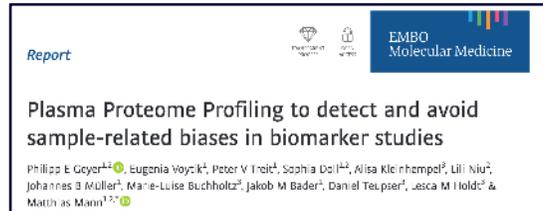
Single sample



LC/MS



Study-wide



Data handling



Enrichment



Analysis

