

# Factsheet

ONE SAMPLE - ALL ANSWERS.



## About *numares*

*numares*, headquartered in Germany, is an international diagnostics company that utilizes machine learning and advanced Nuclear Magnetic Resonance (NMR) Spectroscopy to develop analytical tests for high-throughput use in clinical diagnostics and life science research.

>2.5M TESTS WORLDWIDE

2 LOCATIONS

60 EMPLOYEES (>50% PHD)

**AXINON®** powered by **Magnetic Group Signaling (MGS®)**

The company's *AXINON® System* and its proprietary *Magnetic Group Signaling (MGS®)* technology employ NMR spectroscopy to create highly standardized spectra to evaluate clinical relevant metabolites for biomarker constellations. Thus, several unmet diagnostic needs can be addressed while enabling rapid throughput testing in clinical routine.



## Clinical Diagnostics using Biomarker Constellations

The concentration of metabolic products (metabolites) in various body fluids depends on the genetic and environmental exposure of a human being. This individual metabolic pattern is subject to normal physiological variation, but may also reflect pathological processes in the body.

Nuclear Magnetic Resonance (NMR) spectroscopy is the method of choice to detect metabolic networks, as NMR allows the simultaneous quantification of ~400 metabolites in human specimens. An NMR spectrum reflects all organic substances in a sample. This allows the determination of the structure and dyna-

mics of molecules and determination of substance concentrations within just one single run.

*numares* uses machine learning to analyze study data together with *MGS®* processed metabolite measurements and further "omics" biomarkers to identify relevant biomarker dependencies that carry the most information about the disease in question and to build an equation that represents this so-called "**biomarker constellation**".

This equation is then used as a diagnostic test for cardiovascular, nephrology, oncology, transplantation and neurological disorders.

**2021**

FDA 510(k) Submission of *AXINON® IVD System*

Partner Agreement with Bruker Corporation

**2019**

Cooperation with Mayo Clinic Laboratories

Launch of *AXINON® Clearance Check\**

**2018**

pan-European multicenter study *PARASOL*

**2017**

Cooperation with Oxford University

Launch of *AXINON® renalTX-SCORE®*

**2015**

Launch of *AXINON® lipoFIT®*

**2013**

Bulk order from U.S. laboratory chain

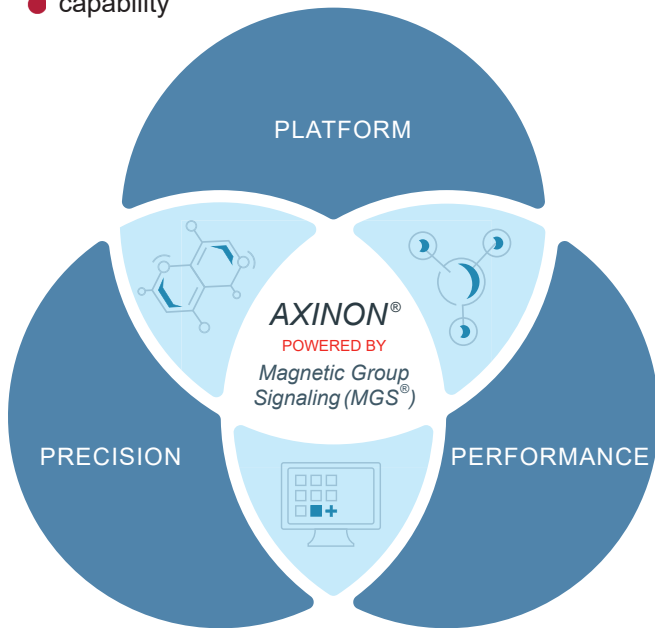
**2004**

Founding as spin-off of Regensburg University

# The AXINON<sup>®</sup> System

AXINON<sup>®</sup> is the first modular software-based system for clinical diagnostics - providing hardware, operating system, *Magnetic Group Signaling (MGS<sup>®</sup>)* technology and individual test applications, collectively enabling:

- Innovative real-time use of metabolic data
- Fully automated lab solution
- Precise results for diagnostic decisions
- High reproducibility (interlaboratory precision)
- Standardized analysis
- Connectivity to lab systems (LIS/LIMS)
- Multi-testing flexibility
- Easy-to-use
- High throughput capability



## PLATFORM

The NMR based AXINON<sup>®</sup> System offers high throughput multi-testing capability.

## PRECISION

AXINON<sup>®</sup> enables a more detailed, standardized and automated lipoprotein and metabolic profiling.

## PERFORMANCE

Identification of more than 400 metabolites within one run enables the discovery and deployment of meaningful biomarker constellations.

\* For Research Use only in the United States. numares' products are not yet available for sale within the United States; they have not yet been approved or cleared by the U.S. Food and Drug Administration.

# Products and Developments applicable to the AXINON<sup>®</sup> System



## CVD RISK ASSESSMENT

AXINON<sup>®</sup> *lipoFIT*<sup>®\*</sup> measures concentration, size and distribution of lipoprotein particles and determines the respective quantity of the key compounds triglycerides, cholesterol and phospholipids.



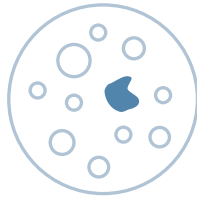
## KIDNEY FUNCTION ASSESSMENT

AXINON<sup>®</sup> *GFR(NMR)*<sup>\*</sup> enables kidney function assessment by an advanced determination of GFR based on a multimarker constellation which combines metabolic and demographic biomarkers into a unique equation (*GFR(NMR)*), that outperforms currently used GFR equations.



## RENAL ALLOGRAFT SURVEILLANCE

AXINON<sup>®</sup> *renalTX-SCORE*<sup>®\*</sup> is a non-invasive test intended to support the diagnosis of a kidney allograft rejection. The urine test is based on multi-parametric metabolome analysis evaluating a biomarker constellation by *Magnetic Group Signaling (MGS<sup>®</sup>)* and calculates a risk score for acute graft rejection.



## CANCER DETECTION (in dev.)

*numares* focuses its research on prostate, bladder and liver cancer. Already good performing biomarker constellations, which could be used in cancer screening, have been identified and validated in independent test sets.



## NEUROLOGICAL DISORDERS (in dev.)

In collaboration with Oxford University, *numares* develops a serum-based test evaluating a biomarker constellation to monitor multiple sclerosis progression in clinical routine and enable early therapy intervention.

## EXECUTIVE BOARD



"We at *numares* are convinced that using AI and our proprietary methods to depict meaningful biomarker constellations will take patient health care and precision medicine to a new level."

**Dr. Volker Pfahlert, CEO**

"With software-based diagnostic tests for our modular AXINON<sup>®</sup> System, we are focusing on improving patient care at affordable healthcare costs."

**Winton Gibbons, President US & CEO**



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