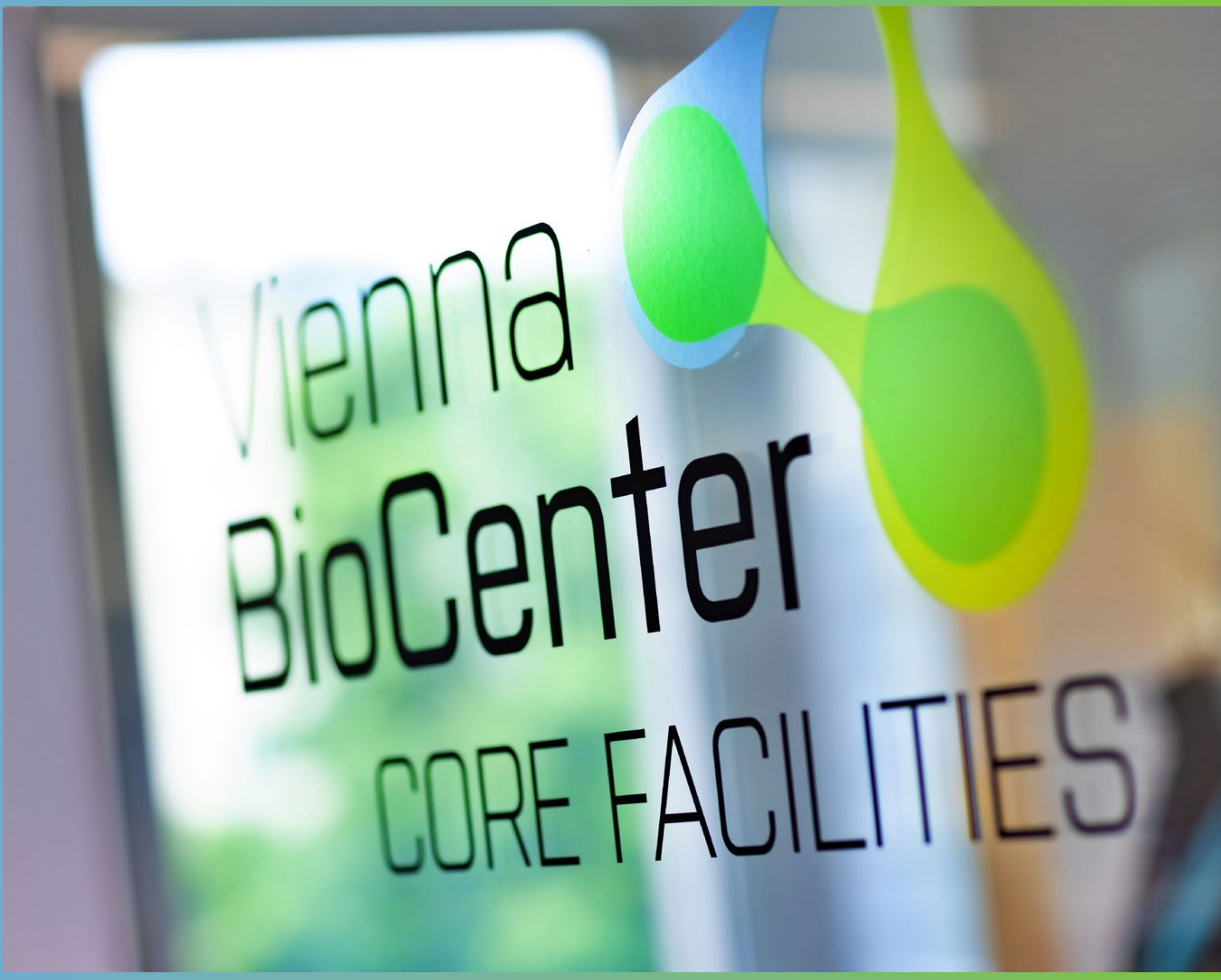
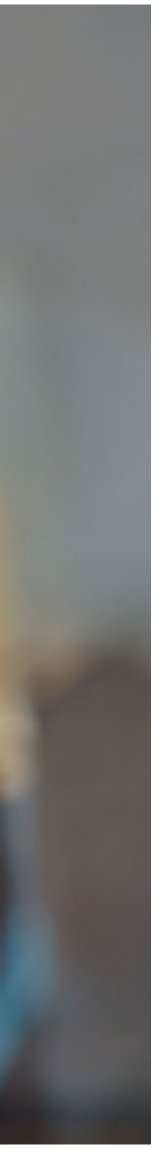
Vienna BioCenter
CORE FACILITIES

2024
ANNUAL REPORT

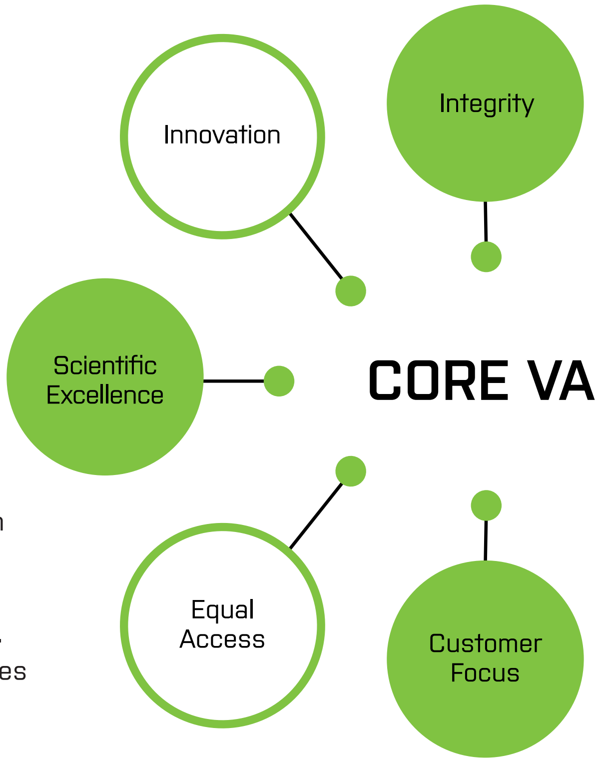
CONTENT





SCIENCE

CORE VALUES

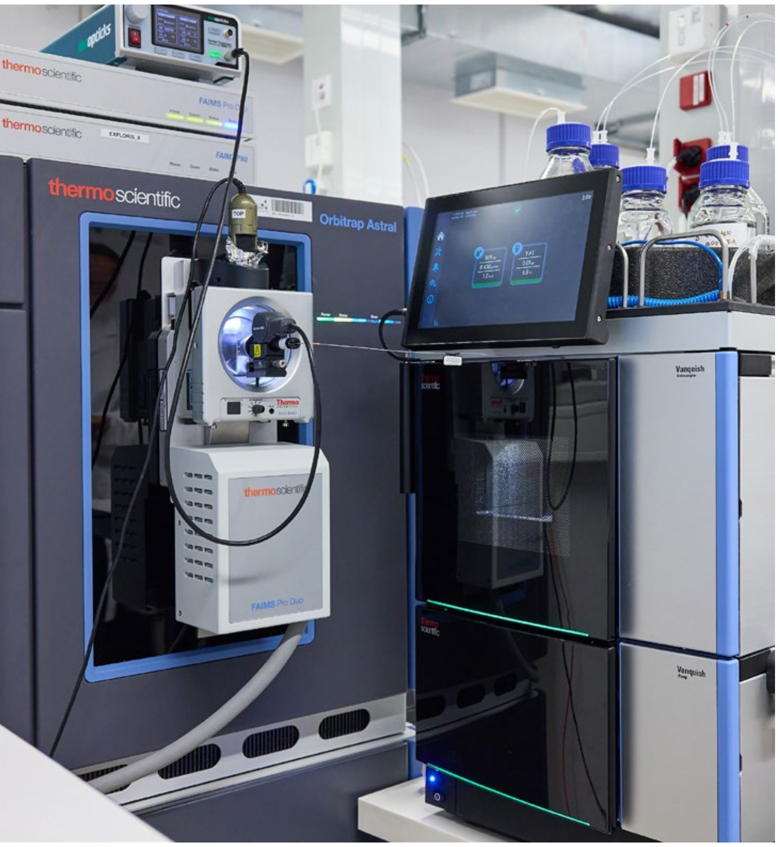


Vienna BioCenter Core Facilities' (VBCF) mission to drive scientific discovery by providing state-of-the-art research infrastructure and fostering collaboration is underpinned by our core values. The current governance and operational practices are reflected by the recently updated business policy, which sets out the organization's fields of activity, and criteria for managing its service portfolio and investments.

As 2024 marked the mid-point of the ongoing funding period, Vienna BioCenter Core Facilities underwent an extensive mid-term evaluation that confirmed its world-class performance, operational excellence, cost-effectiveness, and efficient management. The evaluation provided in-depth insights into each core facility, highlighting both the success outlined above as well as mentioning potential risks stemming from cost-cutting measurements in the past, and thus offered a valuable foundation for the VBCF management to steer its future development. Overall, the evaluation clearly affirmed VBCF's outstanding success in its structure, operations, and impact on supporting life sciences research.

VBCF's scientific impact was reflected in over 500 publications, extensive user training, and strong growth in user engagement.

The year also marked a transition in leadership, as Vivian Lu Tan succeeded Daniele Soroldoni as Managing Director in September 2024 and is leading VBCF into its next phase.



Thermo Fisher Scientific Orbitrap Astral MS

Element AVITI System

A cornerstone of VBCF's progress in 2024 was the acquisition of transformative instrumentation. The **Proteomics Instrument Park** was increased by the **Orbitrap Astral MS** (Thermo Fisher Scientific), through support by a FFG grant. The instrument combines two mass analyzers to achieve a sufficient resolution for multiplexed samples, with extremely high sensitivity, down to single molecule detection, and speed at the same time. This has revolutionized single-cell proteomics by enabling a five-fold increase in protein identification, surpassing 5000 proteins per single cell compared to its predecessor instrument, the Orbitrap Exploris.

The newest addition will enhance low-input proteomics, post-translational modification analysis as well as projects in the field of structural biology by means of crosslinking mass spectrometry across the campus.

Developments made on the state-of-the-art Mass Spectrometry instruments hosted at the Vienna BioCenter Proteomics Instrument Park help push development within the proteomics field towards being an even more powerful and useful tool for biologists. The first exciting collaborations in the area of single cell proteomics, investigating organoids and oocytes to improve our understanding of early human development, have already been formed.

The **Next Generation Sequencing** (NGS) Facility tackled limitations faced in traditional short-read sequencing by adding **AVITI**, a new sequencing instrument developed by Element Biosciences. It complements Illumina sequencing, covering difficult-to-sequence libraries.

VBCF's focus on collaborative innovation was highlighted by the development of numerous platforms with the support of NGS, **Histology** (Histo), **Molecular Tool Development** (MTD) and the **Proteomics Tech Hub**. This also includes successful collaborations within and beyond the borders of Austria:

The PIP-seq single-cell RNA sequencing platform (NGS, MTD) demonstrates promising scalability with successful test sample sequencing and fixation protocols.

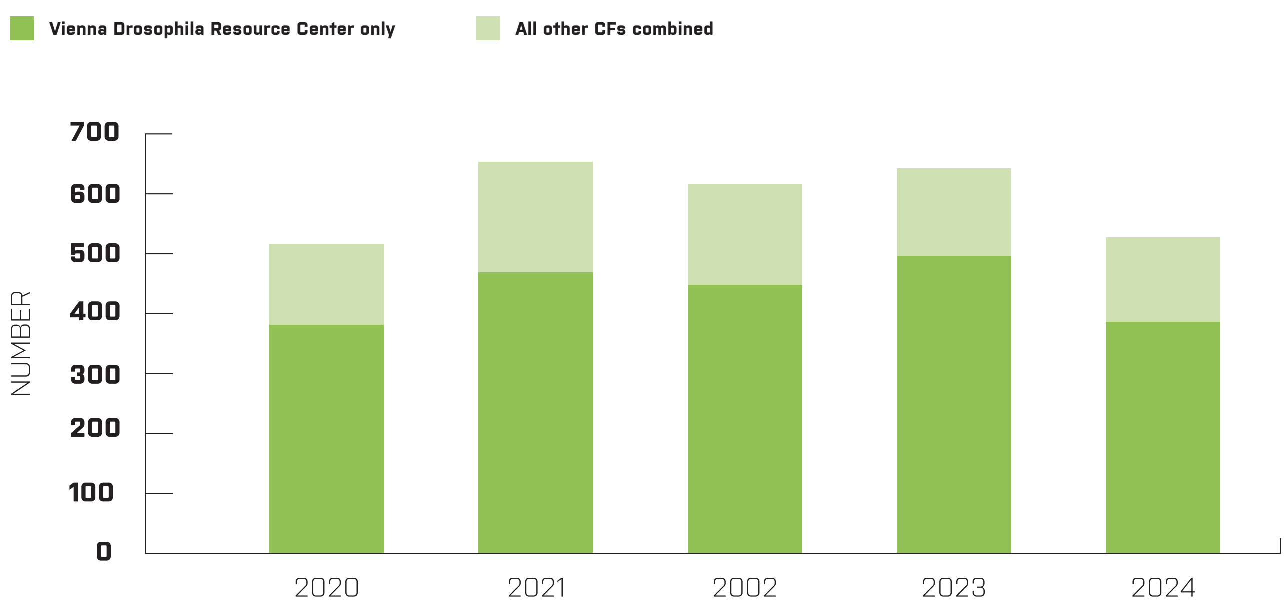
The Visium HD Platform (Histo, NGS) offers subcellular resolution for spatial transcriptomics. In addition, a species-agnostic platform was developed in collaboration with the Berlin Institute of Health to further enhance resolution and affordability.

Spatial proteomics emerged (Proteomics Tech Hub, Histo) with the aim to provide new insights into protein organization within tissues.

VBCF's high-throughput plant phenotyping facility **PHENOplant** was the most requested service within the Euro-BioImaging portfolio in the European funded project AgroSERV. This is the fruit of a successful collaboration with Austrian BioImaging.

Through investments in transformative instruments, collaboration of method development, & innovation, as well as customer outreach, VBCF has reinforced its role as a leading hub to support scientific research.

SCIENTIFIC CONTRIBUTIONS OF VBCF
OVER THE LAST FIVE YEARS



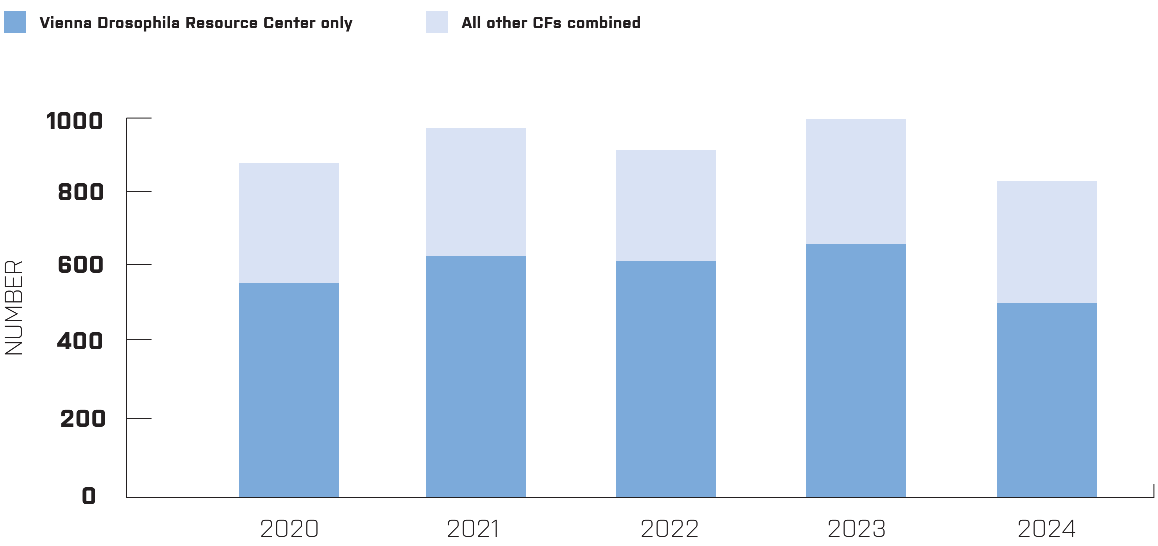
USERS


487
$2bn
Average Revenue
Factored Revenue
$461M
Factored Revenue

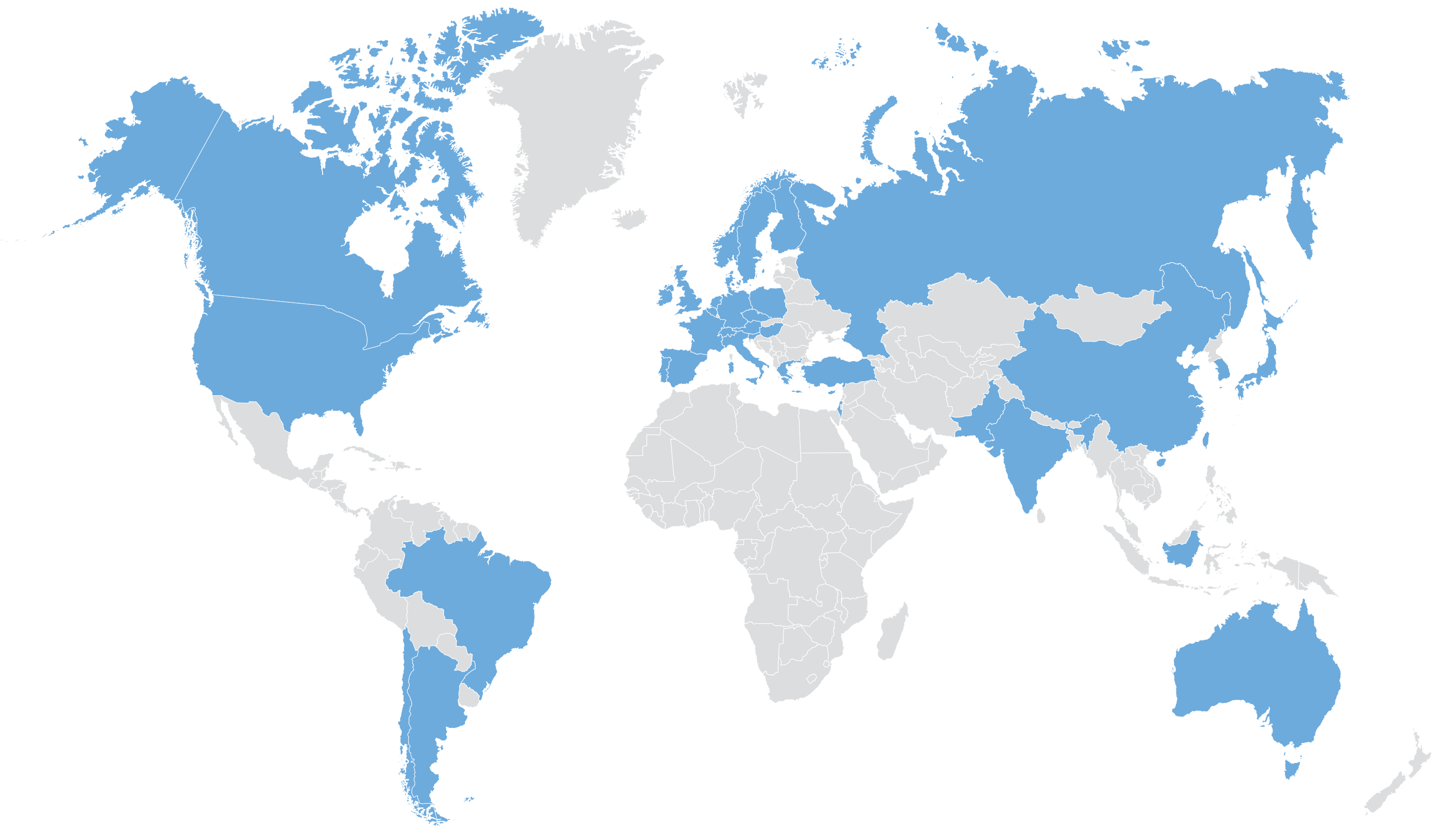
> **A+, 10/10, I recommend to colleagues worldwide.**
>
> VBCF User feedback

In 2024 the VBCF core facilities provided research services to more than 800 individual user groups. All facilities (except for Vienna Drosophila Resource Center - VDRC) serviced nearly the same number of groups as the previous year. The facilities with the broadest user base are **VDRC (510), Next Generation Sequencing (175), Protein Technologies (68), MassSpec-Proteomics (64) and Electron Microscopy (45)**.

USER BASE
OVER THE LAST FIVE YEARS



VBCF CUSTOMERS
2024

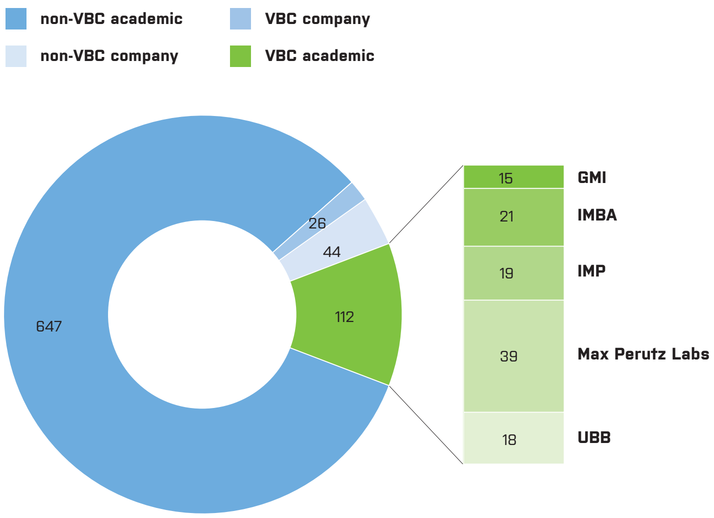


With customers across the globe, VBCF demonstrates a strong and growing demand for our infrastructure solutions worldwide.

USER BASE ANALYSIS
2024

As in previous years, most of the user base consists of academic users, represented by 759 groups, while 70 companies used our services in 2024. All six research entities within the Vienna BioCenter (VBC) academic sector are part of the VBCF user base. Our services are used by all faculties of Gregor Mendel Institute (GMI), Institute of Molecular Biotechnology (IMBA) and the Research Institute of Molecular Pathology (IMP), 39 research groups from Max Perutz Labs Vienna and 18 research groups from the University of Vienna Biology Building (UBB). The UBB hosts the Centre for Microbiology and Environmental Systems Science and the Faculty of Life Sciences of the University of Vienna.

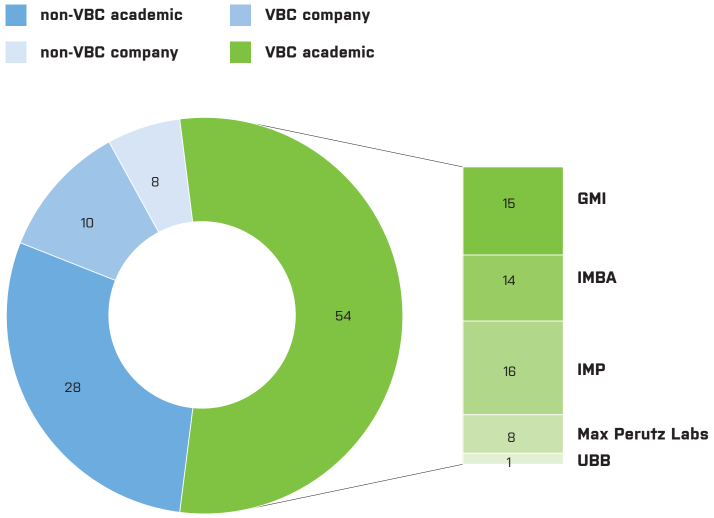
These numbers once again substantiate the fact that our scientific services match the needs of the research community at Vienna BioCenter and beyond.



INCOME DISTRIBUTION
2024

There was a slight decline in user fees by 5,4% compared to the previous year. This stems from being able to offer reduced NGS user fees after introducing the NovaSeq X platform, a technological advance significantly reducing consumable costs. On the other hand, facilities such as Proteomics and Metabolomics showed strong growth, adding 26% and 33% in income respectively.

The share of user fees stemming from VBC academic user groups remained stable, making up 54% of the total income. This is also true for the commercial user fees, adding up to a share of 18%, and non-VBC academic user fees (28%). The ratio between major Universities and research institutes in the field of Life Sciences in the total distribution between VBC and non-VBC income remained equal to previous years, with 65% to 35%.



COMMUNITY & OUTREACH

Welcome Office

Info-Hub and Support for international employees & Students of Vienna BioCenter

Vienna BioCenter Core Facilities are committed to providing and continuously improving the administrative, and outreach tasks for the Vienna BioCenter Association (Verein Vienna BioCenter – Wissenschaftliche Standortgemeinschaft).

The scope was extended in 2024 by the founding of an **International Welcome Office** open to all employees of members of the association. This includes research institutes as well as the biotech companies affiliated to Vienna BioCenter. An extensive website was established, offering comprehensive information for employees and students moving to Vienna to be part of our campus. The Welcome Office offers consultation and recommendations for experts on all aspects of international relocation, including but not limited to visas, settlement permits, and registering in Vienna. In its first year the office collaborated closely with several HR departments, offered advice and consultation to 30+ individuals, and continuously improved its expertise.

For the third consecutive time, Vienna BioCenter was one of the venues opening their doors during the **Long Night of Research**, a bi-annual event taking place all over Austria. The responsibility of organizing the event on campus and coordinating the participation of institutes, companies, and the Vienna Open Lab, lies with VBCF.

In 2024 the number of stations was increase due to the additional event space at the University of Vienna Biology Building (UBB). More than 20 stations welcomed 1000+ curious guests, sharing insights into the diverse scientific research done at Vienna BioCenter. Combined with numerous international visits throughout the year, where the collaborative spirit and the diverse possibilities on campus are highlighted, we continue to spread the word that Vienna is a vibrant hub for Life Science. Several important campus-wide employee benefits, aimed to strengthen the community at Vienna BioCenter are managed by VBCF. **The Vienna BioCenter Sports & Activities Program** which was founded in 2022 continues to offer a diverse range of sports and community activities, enabling the 2800+ employees on Vienna BioCenter to meet their peers outside of the office and the lab.

Together with the **Vienna BioCenter Childcare Center**, with two branches offering childcare from an early age (creche groups from 3 months of age), these services facilitate the transition and onboarding for many employees across the Vienna BioCenter.

IMPRESSUM

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