C>U

# Constructor University

**Annual Report 2023** 



## **Constructor University Statistics**



**COLLEGES** 



340.000<sub>M<sup>2</sup></sub> **CAMPUS SIZE** 



**COUNTRIES REPRESENTED** 



**GRADUATES** (2023)



**STUDENTS** 



**OF INTERNATIONAL STUDENTS** 



**EMPLOYEES** 



**STUDENT TO STAFF RATIO** 



**36.3**% **SCHOLARLY PUBLICATIONS IN TOP OUTPUT (2023)** 10 % JOURNALS (2023)

# Researching data



**65,4**% **INTERNATIONAL COLLABORATION** (2023)



**NO. OF CITATIONS IN THE PAST 5 YEARS** 



**UNDERGRADUATE PROGRAMS** 



**GRADUATE PROGRAMS** 

## Ranking data





501-600

**WORLDWIDE** (THE 2023)



**PRIVATE UNIVERSITY IN GERMANY** 

(THE 2023)



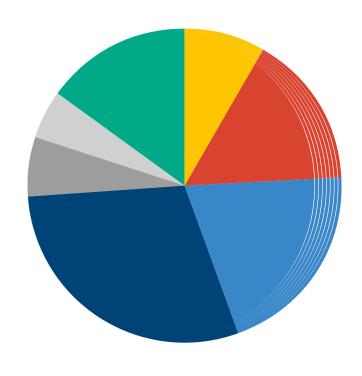
**WORLD INTERNATIONAL UNIVERSITY (THE 2023)** 



**SMALL UNIVERSITY** (THE 2023)

#### STUDENT SHARE **BY FIELD OF STUDIES**

- Business Administration and Law, 8.52%
- Engineering, 15.82%
- Natural Sciences, Math & Stats, 20.35%
- ICT, 29.31%
- Arts & Humanities, 6.08%
- Health & Welfare, 5.03%
- Social Sciences, 14.88%



# Our Vision: Constructing the Future



COMMITTED TO SOCIAL GOOD AS WELL AS REGIONAL AND GLOBAL ECONOMIC DEVELOPMENT, CONSTRUCTOR UNIVERSITY DELIVERS TOP-CLASS EDUCATIONAL AND PERSONAL DEVELOPMENT OPPORTUNITIES TO ITS STUDENTS IN A STIMULATING,

SECURE AND HIGHLY DIVERSE CAMPUS ENVIRONMENT, THROUGH CUTTING-EDGE TECHNOLOGY, LEARNER-CENTERED PEDAGOGY, AND EXCELLENT RESEARCH AND INNOVATION DELIVERED BY A DISTINGUISHED RESEARCH FACULTY.

# Constructor University Annual Report

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# Message from the Chancellor & the President

2023 marked a special year in our university's story and its celebrated history as one of Germany's and Europe's foremost innovative academic institutions: it marked our first year under the banner of the Constructor University name. This change is significant, not in words alone, but in signifying a new step to become a university with a unique mission to educate young people from different parts of the world to become constructors of their own lives and of progress in the societies of Germany, Europe, and the world, by producing the knowledge for this societal progress.

As we look around, we see the need for academic research and partnerships to step up and address societal challenges more than at any other time in recent history. The list of challenges is growing, both in promise and in the potential for peril. It does not take long to see headlines of a world fraught with new forms of conflict and growing social strife. But it is also not hard to notice unparalleled advancements – look no further than advancements in science and technology, from Al to robotics.

While not all of these challenges can be addressed by academia, the Constructor name represents an emblematic understanding of the role university can play – an understanding that networks of academic and entrepreneurial institutions can foster positive social meaning.

At Constructor, we are proud of the results we have achieved as we look at the year in review. If we look at research, we have made several breakthroughs at our university. A team of researchers achieved a breakthrough in chemical cell biology with their discovery of a new class of membrane transporters. And another working group achieved something similar with its research on the uptake of vitamin  $B_{12}$  in the intestine.

Meanwhile, our student and alumni bodies were equally impressive, with a team of students from the university reaching the semi-finals of the global Hult Prize Challenge in Tunisia. The alumni startup WasteAnt won the Bremen Startup Award. And alumnus Cornel Amariei, who became known for developing high-tech glasses for the visually impaired, managed to patent the technology in the USA.

And finally, we have amplified our rich culture of social engagement. Students organized a collection of relief supplies for the victims of the earthquake in Turkey and Syria, while Constructor Group financed and organized a company flight with doctors and urgently-needed goods. Support for students from Ukraine was also further expanded, with the university providing 17 full-tuition scholarships to Ukrainian students. Our ambitious aim is to extend this opportunity to 100 students soon.

As we go forward, these efforts will only expand as we continue to live up to the Constructor name.



⟨ PRESIDENT
 DR. STANISLAV
 PROTASOV



CHANCELLOR
OZNUR BELL

# 1. Institutional Overview

## 1.1. History

Constructor University (previously called Jacobs University and International University Bremen) was founded in 1999 with the support of the University of Bremen, Rice University in Houston, Texas, and the Free Hanseatic City of Bremen. In the same year the university gained preliminary state recognition from the Free Hanseatic City of Bremen.

In the fall of 2001, 130 students from 40 countries arrived on campus and began their studies together with 27 professors – it was the start of the unique, highly international and diverse community that has become the hallmark of what distinguishes Constructor University to this day.

Ex-Chancellor of Germany, Helmut Schmidt, presented the idea behind the university in his speech at the university's official opening in 2001:

"Germany urgently needs universities such as the one being inaugurated in Bremen today: that is, institutions of higher learning that are modern, performance-oriented, independent of the reins of state bureaucracies, interdisciplinary, and, at the same time, international."

The Jacobs Foundation invested €200 million in the institution in November 2006, thus assuming a two-thirds majority of the partnership share. It was the largest donation in Europe ever made to a university. At the beginning of 2007, the university changed its name to Jacobs University Bremen.

Together with University of Bremen, Jacobs University Bremen received a €5.8 million grant in 2007 from the German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) under the framework of the Excellence Initiative of the Federal Government and the Länder, to establish the Bremen International Graduate School of Social Sciences (BIGSSS).

In November 2022, the university changed its name to Constructor University.





#### **HISTORY OF THE CAMPUS**

Our campus is located on the site of the former Roland Barracks in Bremen-Grohn. The site was erected in 1936 during the National Socialist period, as an anti-aircraft barracks called Flak-Kaserne Grohn. After the Second World War it was used as the American Military Forces headquarters for the Bremen Enclave. Already at this time, there were plans by the Senate of Bremen and the American Military Government for the Bremen Enclave to install an International University on the site – plans which ultimately could not be realized.

In 1948, it was transformed into a displaced-persons camp by the International Refugee Organization under the management of the American forces, known as Camp Grohn. In 1951, the site was given back to the US Army and served as a replacement center for US Forces in Germany. Shortly after the formation of the Bundeswehr in 1955, Camp Grohn was transferred to the responsibility of the German government and renamed Roland Kaserne. Roland Kaserne housed a Bundeswehr logistics school during the Cold War. In 1999, the military base was decommissioned, making way for the university.





Converting a military base into a university was an architectural challenge. The architectural firm commissioned (Böge & Lindner Architekten, Hamburg) received several awards for its work, among them the BDA Prize (Preis des Bundes Deutscher Architekten) in 2003 (for the redevelopment of Alfried Krupp College), a Deutscher Städtebaupreis award in 2004 (for the overall redevelopment) and the BDA Prize for the redevelopment of Campus Center, Lab 2 and Lab 3 in 2006. In 2009, College Nordmetall became the first completely new building to be erected on campus. This was followed in 2012 by a second new building: the Sports and Convention Center, designed by the architect Max Dudler, which received a Special Mention from the BDA Bremen Prize 2014.

## 1.2. Strategic Priorities

For the year under consideration, the university focused mainly on three main objectives, namely:

- Expand our in-person and online technology-enriched educational programs to attract talented and motivated students;
- Achieve global research excellence in selected areas;

 Achieve financial sustainability to support accelerated development.

In 2023, Constructor University has initiated a range of transformative targets and projects, each carefully designed to propel us towards our goals. To support this process, we established a dedicated Strategy Unit.



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# 1.3. Gender Equality & **Diversity Plan**

In 2023, the Executive Board also developed and approved a new Gender Equality and Diversity Plan. As an international organization, Constructor University has a strong interest in promoting diversity across the university to reflect the wide range of cultural, national, and religious origins of its students – it is important that our students see themselves reflected in our employees. Lastly, as a progressive and forward-looking employer, the university wishes to promote advancement for historically disadvantaged individuals.

The Gender Equality and Diversity Plan provides a concrete framework for advancing these ambitions. Six strategic drivers have been identified to improve gender parity and equal treatment, and to enhance diversity:

- Systematized post establishment to avoid gender pay gaps;
- Gender representation in faculty, staff, student, and decision-making & representative bodies;
- Gender equality in faculty hiring procedures;
- Gender equality in faculty career progression;
- Discrimination and training;
- International representation in faculty, staff, student, and decision-making & representative bodies.

Targets tied in with these ambitions and coupled to priority actions have been developed for each of these drivers.



# 1.4. Ranking Performance

THEIR UNIVERSITY AND EXCELLENCE IN RESEARCH AND TEACHING WERE ONCE AGAIN REFLECTED IN VARIOUS UNIVERSITY RANKINGS.

Constructor University was recognized among the top universities in Germany in the 2023 rankings by the Center for Higher Education Development (CHE), which highlighted positive student feedback on study conditions. In the Times Higher Education (THE) ranking, Constructor University stands out as the university with the highest percentage of international students in Europe. This remarkable percentage also ranks it as the 2nd most internationally diverse university in the world, according to THE.

Additionally, THE ranked Constructor University as the 38th best small university globally, further emphasizing the university's commitment to personalized education. In the 2023 THE World University Rankings, Constructor University secured a position in the 501-600 range (out of 1799), maintaining its status as the best private university in Germany. Furthermore, the university excelled in the 2023 THE Young University Rankings, where it ranked in the 101–150 range (out of 605), highlighting its growing reputation on the global stage. The university also shone in specific areas such as student support and practical teaching, particularly in programs like Industrial Engineering and Management, as recognized in the CHE ranking.

# 2. Degree programs

# 2.1. Mission statement for education (Bildungsleitbild)

IN 2023 THE NEW MISSION
STATEMENT FOR EDUCATION WAS
APPROVED BY THE ACADEMIC SENATE
AND THE EXECUTIVE BOARD.

With the statement, the University commits to a multi-disciplinary, holistic approach alongside exposure to cutting-edge digital technologies and societal challenges. Through this commitment, Constructor University aims to cultivate academic excellence,

intellectual competencies, and societal engagement, as well as professional and scientific skills, thereby preparing tomorrow's leaders for a sustainable and peaceful future. Three core goals in the mission statement for education are academic excellence, personal development, and employability, each resonating with the founding principles of the mission statement: internationality, digital technology, and enablement.

CONSTRUCTOR UNIVERSITY
HAS OUTLINED THE BUILDING
BLOCKS AND MAIN INSTRUMENTS
WITHIN ITS STUDY PROGRAMS
AND STUDENT EXPERIENCE THAT
ARE ESSENTIAL FOR ACHIEVING
THESE CORE GOALS:

The instruments outlined here are central to achieving the core goals, although this listing is illustrative rather than exhaustive.



#### **ACADEMIC EXCELLENCE**

Building blocks: relevance; research; student-centered learning.

#### **Main instruments:**

- Appointment and promotion policies fostering the excellence of academic staff.
- Innovative forms of teaching and learning.
- Recruitment of talented students.
- Academic advising.
- > Research-oriented modules.
- > Spectrum of in-presence and online education.



#### PERSONAL DEVELOPMENT

Building blocks: individual competence; intercultural competence; societal agency.

#### **Main instruments:**

- Multi-disciplinary approach.
- Community Impact Project.
- International and diverse classrooms and campus.
- > Extra-curricular activities.
- Intercultural exposure.



#### **EMPLOYABILITY**

Building blocks: professional competence; multidisciplinary competence; career skills.

#### Main instruments:

- CONSTRUCTOR track (4C model).
- Industry-based instructors.
- Industry projects.
- > Student career support.
- Internships.
- Partnerships with companies in the CONSTRUCTOR ecosystem.



# 2.2. International Foundation Year

The International Foundation Year (IFY) is a pre-degree academic preparatory program, enabling young students from all over the world to enhance their English language capabilities and develop study skills appropriate to a Higher Education environment. In addition, it gives them the chance to acclimatize themselves to living and studying in another country, where the cultural context is quite different from their own.

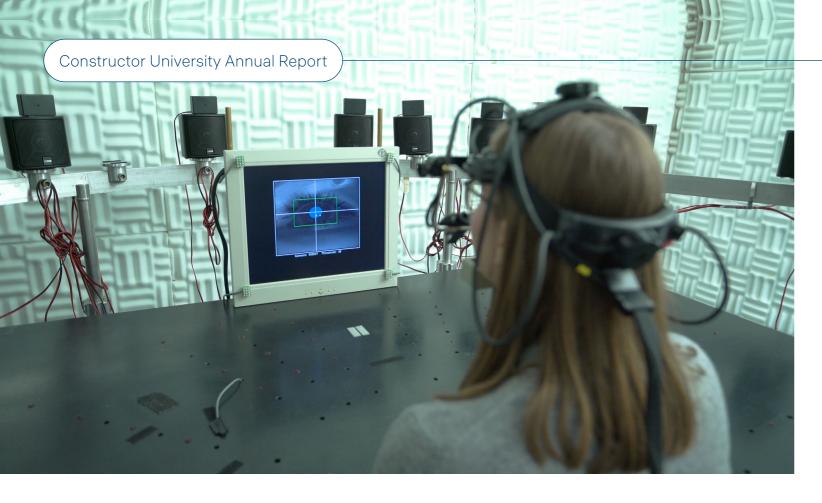
#### **OUR ACHIEVEMENTS IN 2023:**

- The IFY program overperformed in this academic year (2022/23), with 68 students enrolled compared to the 50-student target.
- The majority of IFY students succeeded in enrolling in one of Constructor University's Bachelor programs in Fall 2023.
- The program is now legally the English analog of a German Studienkolleg, providing an academic qualification for entry to programs taught in English in Germany's higher education institutions.
- The IFY program is highly goal-directed, with future potential for expansion into an online format.

The IFY program has the highest response rate for feedback at CU, providing the department with an accurate representation of the student body's views and many suggestions for program development.

Moreover, we introduced a new predegree program additional to IFY, the Pre-Bachelor Semester (PBS) program, to be launched in Spring 2024. This program offers students the opportunity to start their academic journey at Constructor University in the Spring semester, instead of waiting for the Fall semester.





# 2.3. Undergraduate Programs

AS OF 2023, CONSTRUCTOR
UNIVERSITY OFFERS
17 UNDERGRADUATE PROGRAMS
ON ITS ATTRACTIVE RESIDENTIAL
CAMPUS IN BREMEN-NORD.
IN ADDITION, THE FIRST ONLINE
PROGRAM - APPLIED COMPUTER
SCIENCES - WAS LAUNCHED
SUCCESSFULLY IN 2022 UNDER
THE NAME BSC COMPUTER SCIENCE
AND SOFTWARE ENGINEERING
AND ACCREDITED UNDER
THE NEW NAME IN 2023.

Our programs extend across the Natural and Life Sciences, via Computer Science and Electrical Engineering, to Business, Social and Decision Sciences. Here, the next generation of global citizens is equipped with fundamental and state-of-the-art skills to tackle global challenges, covering the whole breadth of the sciences.

Small classes and hands-on teaching are the key to early student involvement in research. Our students learn from the start that curiosity leads to the creation of knowledge, and many of them benefit from scientific publications developed during their undergraduate studies at Constructor University.

In 2023 more than 20 peer-reviewed scientific contributions co-authored by our bachelor's students were reported, corroborating the scientific contribution of their work to ongoing research.

In 2023, two new programs, Software, Data and Technology (SDT) and Management, Decisions and Data Analytics (MDDA), were introduced. Additionally, a new minor in Society, Media, and Politics (SMP) was launched.

Overall, 2023 saw a realignment of our study programs to emphasize Data Science, along with increased collaboration with JetBrains and the introduction of New Skills modules.

Several programs underwent name and content changes, including Earth and Environmental Sciences (EES) becoming Earth Sciences and Sustainable Management of Environmental Resources (ESSMER), Mathematics (MATH) rebranded as Mathematics, Modeling and Data Analytics (MMDA), and Physics updated to Physics and Data Science (PHDS). There was also a substantial revision of International Relations: Politics and History (IRPH), and the BSc in SMP was discontinued.

More than 90% of all publications in the Natural and Life Sciences were published in prestigious top 25% journals. Similarly, works by our junior engineers and computer scientists are regularly accepted at prestigious conferences. This acknowledgment by the research community is proof both of our students' excellence and of our educational concept. For 2024 two new online programs are planned to be launched.

## **4C Curriculum**

Year 1

CHOICE

Students have the CHOICE to decide on their major after the first year

Year 2

CORE

Students study the CORE elements of their major and may choose a minor

Year 3



Students enhance their CAREER skills and prepare for the job market, graduate school and society

**Year 1–3** 



teaches multidisciplinary skills, competences and methods and is integrated across all three years of study

## THE NEW 4C CURRICULUM INCLUDING CONSTRUCTOR TRACK.

The core of our educational concept is the 4C curriculum, developed at Constructor University in 2023, allowing our students to switch their major within the first year of their studies without any delay and to pursue a minor in another field of interest.

- In the first year, the foundations for further studies are laid down in CHOICE modules;
- In their second year, students dive deeper into subject-specific CORE modules;
- The third year allows for more individual development in the CAREER modules. Here, students choose their specialization modules, while the mandatory internship or the development of a startup equip them with additional work and entrepreneurial skills;
- The fourth pillar of the curriculum is the university-wide CONSTRUCTOR Track (CT), implemented in 2023. The CT can be broadly defined as the successor to the former Jacobs Track, and it comprises two separate components: the Methods area and the "New Skills" area. Together the two components constitute a mandatory and distinctive curriculum offering from the University, providing the intellectual toolkit for lifelong learning and encouraging the use of diverse methodologies to approach cross-disciplinary problems.

## 2.4. Master's Programs



THE SIX MASTER'S PROGRAMS
AT CONSTRUCTOR UNIVERSITY
CATER TO THE EVOLVING NEEDS
OF INDUSTRIES BY OFFERING
INTERDISCIPLINARY EDUCATION
THAT BLENDS THEORETICAL
KNOWLEDGE WITH PRACTICAL
SKILLS.

Our programs prepare students for leadership roles in fields such as Supply Chain Management (SCM), Data Engineering (DE), Computer Science, Software Engineering (CSSE), Advanced Software Technology (AST), and Data Science for Society and Business (DSSB).

The SCM program addresses the challenges of digitalized supply chains, focusing on data analytics and engineering to equip students with in-demand skills. Similarly, the Data Engineering program emphasizes acquiring and analyzing large datasets to drive innovation and scientific discovery.

CSSE provides a research-oriented curriculum that combines technological education with management and leadership skills. Specializations in Software Engineering, Cybersecurity, and Artificial Intelligence ensure graduates are equipped to lead in both research and industry settings.

AST was launched in 2023. The program is jointly designed with JetBrains and focuses on IT graduates seeking to become experts in advanced software technology. It provides a solid education in software development, data science, and programming languages.

## The DSSB program targets students with backgrounds in the social scienc-

es, humanities, or natural/technical sciences, teaching them to leverage digital data and computational tools to solve interdisciplinary problems. With elective tracks covering society and business, health and environment, and data science, graduates gain expertise in analyzing social causes of digital transformation, developing statistical models, and effectively communicating findings.

In line with Constructor University's educational convictions, all master's programs focus on practical application, hands-on experience, and collaboration with industry experts, thus ensuring that graduates are well-prepared for leadership roles in their respective fields.

With the new **DSSB online program** starting in 2024, our graduate education will enter the online market.



# 2.5. PhD Programs

## CONSTRUCTOR UNIVERSITY HAS A STRONG FOCUS ON RESEARCH.

This is documented in the annual output of peer-review articles and the number of third-party funded projects supported both by industry and by public funding authorities such as the German Research Foundation (DFG). Alongside professors and postdoctoral fellows, Constructor University's PhD students play a vital part in defining Constructor University as a research institution.

PhD degrees at Constructor University may be obtained in the natural sciences, mathematics, in computer science and engineering disciplines, as well as in the social sciences.

In the Fall 2023 semester, 226 PhD students from 54 countries were enrolled at Constructor University, thus making up approximately 12% of the overall student body.

Admission to PhD studies is highly selective, attracting scholarship-holders from many governmental agencies such as the China Scholarship Council (CSC), industry-funded scholarship-holders, and DAAD-funded students from all over the world. The prerequisite for admission is a field-related master's degree recognized in Germany.

Through independent scientific work, PhD students acquire a wide range of skills and knowledge, including beyond the specialist subject they are working on within the scope of their PhD thesis. Interdisciplinarity is a key element of research at Constructor University, and PhD students are closely supervised by research group leaders.

A great success in 2023 was approval of the European Commission's Horizon Europe Marie Skłodowska-Curie Action Doctoral Network entitled 'Photosynthetic Antennas in a Computational Microscope: Training a new generation of computational scientists' (Photo-CaM). PhotoCam, coordinated by Constructor University, sounds like a blueprint for the Constructor University mission: It partners with universities, research institutions and companies from all over Europe, while combining computers with the natural sciences to provide important insights for application areas such as solar cell design or optimizing crop productivity.

# 3. Research

# 3.1. Research Highlights

2023 MARKED ANOTHER YEAR
OF STRONG RESEARCH OUTPUT
FOR CONSTRUCTOR UNIVERSITY,
WITH NEARLY 400 PUBLICATIONS, MOSTLY
IN TOP 25% JOURNALS (69%, COMPARED
TO A 60% GERMANY-WIDE AVERAGE)
AND WITH 4% IN THE TOP 1% JOURNALS
IN THEIR RESPECTIVE FIELDS.

We can only present a small selection here.

#### **SCHOOL OF SCIENCE**

A breakthrough in chemical cell biology was achieved by our chemists, with their <u>discovery</u> of a new class of membrane transporters.

The efficient transport of peptides into the cell interior is emerging as a key technology in modern medicine.

Insights into the **uptake of vitamin B**<sub>12</sub> by "good" bacteria in the human intestine were obtained by our theoretical physicists. Their findings are serving as a basis for the development of new and targeted antibiotics.

Our marine microbiologists succeeded in overturning a longstanding paradigm, namely that marine bacteria were not able to use chemotaxis to move towards individual picophytoplankton. It was found that they are. This finding will change the data basis for ecological modeling on all scales from the individual interaction up to global models since, despite the minute size of each picophytoplankton, they constitute large amounts of marine biomass.

The high-quality and interdisciplinary research in the School of Science also convinced the German Research Foundation (DFG) to aprove funding for a <a href="mailto:new single-crystal">new single-crystal</a>
<a href="mailto:X-ray diffractometer">X-ray diffractometer</a>. This is not just an award for our researchers' work but will also ensure further outstanding results in the School of Science.

## SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

Underwater mapping is expensive, yet vital for many applications, from archaeology to deep-sea mining. Our researchers used Al to develop a new method for creating **underwater maps** that delivers better quality at lower costs. The approach is based on a new form of signal processing called "synthetic scan formation".

The method is not restricted to underwater environments or even to Earth, but can be used equally well for automatic <u>mapping of planetary landforms</u> e.g., on Mars or the moon.

## SCHOOL OF BUSINESS, SOCIAL AND DECISION SCIENCES

In a special issue of the online journal "Frontiers in Sociology", edited by sociologists from Constructor University and the Otto von Guericke University of Magdeburg, a group of researchers documented the global impact of the COVID-19 pandemic on the social cohesion of individual population groups and world regions. The publication makes a significant contribution to the 'lessons learned', to help prepare for future pandemics.

Some of our psychologists are focusing their research on how humans can turn irritation and frustration into creativity. Their findings may change modern education and other fields where creativity and innovation are necessary. Energy security in the "decarbonization era" is a global issue that cannot be solved without international partnerships. Our political scientists even take this one step further:

Dependence on international partnerships to ensure energy security would increase the likelihood of peaceful cooperation. In their article in Nature Energy, our researchers convincingly describe how international relations and energy research should come together to tackle the transition to the post-carbon era.

A hands-on approach led to publication of the first interdisciplinary training manual for healthcare professionals in the Germanspeaking world, entitled: "Teaching and learning health literacy. Training program for social and health care workers". In addition to scientific background information, the book offers training materials for healthcare professionals, tested in the field and geared to addressing real-world issues. They help trainees expand their skills in communication, health literacy, and patient safety.

These are only a few examples, illustrating the breadth of Constructor University research and underlining the impact of our small campus on global research.





Third-party funding calls depend on political decisions on funding priorities. Accordingly, the research revenue is dependent on whether appropriate expertise and principal investigators are available at the universities. Compared to large universities, where acceptances and rejections often balance each other out, the fluctuations in funding here in Bremen North can be larger for individual funding groups, as even a few individual commitments or departures result in higher percentage fluctuations due to the medium-sized project volume.

#### That said, in 2023 we successfully retained/ received grants from the following:

- German Research Foundation (Deutsche Forschungsgemeinschaft, DFG)
- European Union
- Federal funding (Bundesmittel) and various foundations (project grants)

## Third-party funding sources in research in 2023:

- German Research Foundation (DFG): EUR 3.135 million
- > Federal (Bundesmittel): EUR 1.719 million
- > European Union: EUR 0.867 million
- Foundations: EUR 0.518 million
- > Regional: EUR 0.102 million
- > Other: EUR 0.205 million
- Private industry: EUR 3.14 million

# 3.3. Academic & Research Facilities

This year, Constructor University's laboratories have continued to excel as pillars of innovation and education in various scientific domains. CLAMV, the Computational Laboratory for Analysis, Modelling, and Visualization, has been instrumental in supporting faculty projects across the computational sciences. By providing resources for high-performance computing and sophisticated data visualization, CLAMV has underpinned significant research in fields ranging from theoretical physics to computational material science.

One highlight this year was the installation of additional powerful computing facilities dedicated to demanding projects in computational life sciences and physics. Most computing nodes are equipped with two, four or even more high-end graphics adapters to gain significant acceleration for modern simulation methods. At Constructor University, high-performance computing is used to perform computationally intensive simulations, for classical molecular dynamics, in quantum chemistry, in fields of mathematics, and in computational (statistical) physics, often combined with artificial intelligence methodologies. e.on Lab and Lab II have continued to be the cornerstone for research in the Life Sciences, Chemical Sciences, and Physics.



In 2023, two major instruments came onstream – a new top-of-the-line dual-source (Mo/Cu) X-ray diffractometer and an Orbitrap mass spectrometer. Single-crystal XRD (x-ray diffraction) is a standard technique for the solid-state structural characterization of new compounds and materials. The Cu source allows measurement of XRD data sets of organic as well as organometallic compounds, making it an important addition to the research facilities. Its importance extends beyond Constructor University to the entire region, as it is the first dual-source (Mo/Cu) X-ray diffractometer in the City State of Bremen. The new, industry-funded Orbitrap mass spectrometer for small molecule structural elucidation, identification, and characterization is used for metabolomics studies at world-class research standards.

OceanLab is noteworthy as a multipurpose research facility dedicated to Earth and Marine Sciences. The lab's unique infrastructure, such as its large test basin, the prototyping area and the greenhouse, was used for a range of interdisciplinary projects and industry collaborations this year. Lab III, dedicated to the Behavioral and Social Sciences, hosts equipment for psychophysiological and human performance testing. The laboratory's state-of-the-art facilities, including tools for eye tracking and behavior observation, have been essential for several third-party funded projects from DFG, BMBF, Erasmus+, and the Federal Joint Committee (Gemeinsamer Bundesausschuss).

### 3.4. Research Events

In September 2023 we established the Innovative Universities Global Webinar Series. This event has attracted a diverse and loyal audience globally. We hosted 19 universities, including Minerva University, Arizona State University, African Leadership University, CODE University, Asian University for Women, and others.

Our webinar series explores case studies of innovative higher education institutions, to inspire change and drive progressive thinking in our viewers' universities. In these bi-weekly hourlong sessions, eminent founders and leaders of innovative universities share their experiences and success stories.

In addition, we hosted a number of onsite scientific events. One of these was the Bremen Life Science Meeting on May 15 at Constructor University. Researchers from the University of Bremen, Constructor University, Bremen University of Applied Sciences and other institutions, together with company representatives, came together for a day of lectures, poster presentations and discussions on the campus in Bremen. Around 160 people attended the event, and 79 posters showcasing different research topics were presented.

Scientists and students from biochemistry, cell biology, biophysics, computer science and related disciplines met to network, discuss, and learn about each other's research. Additionally, the meeting included presentations from various regional companies, offering an industry perspective. This event continued a longstanding tradition of collaboration between Constructor University and the University of Bremen, a partnership that began in 2002 and officially became the Bremen Life Sciences Meeting in 2015. The organizers expressed enthusiasm for hosting similar events in the future, with plans to extend participation to more universities in Northern Germany to further strengthen scientific collaboration and opportunities for student training.

Constructor University Annual Report

27.0% (in first year 31.4%)

28.5% (in first year 28.1%)

13.8% (in first year 15.5%)

0.2% (in first year 0.1%)

Australia &

Oceania

16.5% (in first year 13.1%)

9.3% (in first year 2.0%)

Germany

3.9%

Middle

East

4.2% (in first year 3.9%)

North America

5.7% (in first year 4.5%)

South America

# 4. Students

# **Enrollment & Student Demographics**

Eastern Europe

Bachelor's Students

At the beginning of the Academic Year 2023/2024, Constructor University had a total enrollment of 1823 students, of whom 672 students were in their first year (reference date: November 1, 2023). Of these students, 58.3% identify as male and 41.2% as female. Distribution across the different degree levels can be found in the following table.

#### **C BAR CHART 1**

Distribution of students across the different degree levels. Enrollment Fall 2023: 1882 (in First Year - 672). The number in parentheses shows the number of freshmen. Total numbers include MA IR students.

- \* MA International Relations (joint program with University of Bremen)
- \*\* 14 joined in Fall 2023; however, PhD students can join at any time

Preparatory Students Master's IR (International Students Foundation Year)

UG Exchange/ Visiting Students

15 (in first year 15)

50 (in first year 50)

59 (in first year 0)

262 (in first year 127)

Master's Students (incl. MA IR\* students +

**Guest Students**)

226 (in first year 14)\*\*

PhD

Students

#### **BAR CHART 2**

Africa

Regional distribution among the student body; Fall 2023. The number in parentheses shows the regional distribution across freshmen.

Middle & Western Europe

The student body represents 116 countries in total (compared to Fall 2022: 118). The regional distribution, as well as the specific number for Germany, can be found in the following table.

A more detailed distribution of students in the bachelor's and master's programs can be found in the next tables.

#### TABLE 1

Enrollment numbers by master's programs. The number in parentheses shows the distribution in Fall 2022.

| MASTER'S STUDENTS  | TOTAL ENROLLMENT FALL 2023<br>(FALL 2022) |
|--|---|
| TOTAL  | 262 (232)                                 |
| MASTER OF ARTS   | 59 (84)                                   |
| International Relations: Global Governance & Social Theory | 59 (84)                                   |
| MASTER OF SCIENCE  | 203 (148)                                 |
| Advanced Software Technology                               | 38 (/)                                    |
| Computer Science & Software Engineering                    | 36 (23)                                   |
| Data Engineering   | 30 (51)                                   |
| Data Science for Society & Business                        | 40 (34)                                   |
| Psychology   | (/) (4)                                   |
| Supply Chain Management                                    | 36 (36)                                   |
| Exchange / Visiting Program                                | 23 (/)                                    |

**TABLE 2** 

Enrollment numbers by bachelor's programs. The number in parentheses shows the distribution in Fall 2022.

| UNDERGRADUATE<br>STUDENTS                   | NEW<br>PROGRAM   | TOTAL ENROLLMENT<br>FALL 2023 (Fall 2022) |
|---|--|---|
| TOTAL                                       | NAME   | 1285 (1288)                               |
| BACHELOR OF ARTS                            |  | 295 (338)                                 |
| Global Economics & Management               |  | 62 (82)                                   |
| Integrated Social Sciences                  | Society, Media & Politics  | 8 (14)                                    |
| International Business Administration       |  | 85 (86)                                   |
| International Relations: Politics & History |  | 49 (64)                                   |
| Psychology                                  | Integrated Social & Cognitive Psychology                                 | 84 (89)                                   |
| Double Major / Combined Major*              |  | 1 (/)                                     |
| Exchange / Visiting Program                 |  | 6 (3)                                     |
| BACHELOR OF SCIENCE                         |  | 990 (950)                                 |
| Biochemistry & Cell Biology                 |  | 113 (119)                                 |
| Chemistry                                   | Chemistry & Biotechnology  | 58 (51)                                   |
| Computer Science & Software Engineering     | Applied Computer Science   | 18 (11)                                   |
| Computer Science                            |  | 361 (332)                                 |
| Earth and Environmental Sciences            | Earth Sciences & Sustainable<br>Management of Environmental<br>Resources | 29 (29)                                   |
| Electrical and Computer Engineering         |  | 56 (63)                                   |
| Industrial Engineering & Management         |  | 152 (155)                                 |
| Intelligent Mobile Systems                  | Robotics & Intelligent Systems   | 63 (66)                                   |
| Mathematics                                 | Mathematics, Modeling<br>& Data Analytics                                | 16 (18)                                   |
| Management, Decisions & Data Analytics      |  | 5 (/)                                     |
| Medicinal Chemistry & Chemical Biology      |  | 47 (52)                                   |
| Physics                                     | Physics & Data Science   | 39 (43)                                   |
| Software, Data and Technology               |  | 24 (/)                                    |
| Exchange/Visiting Program                   |  | 9 (11)                                    |

# 4.2. Student Life

The goal of the Student Life and Support team is to facilitate and support students' growth, well-being, and the development of interpersonal, intercultural, and leadership competencies outside of the classroom. This goal is attained through various learning opportunities and services for all students in our Constructor community.



2023 saw the Student Life and Support
Team deliver support and services to the biggest student population in the history
of the institution, 1266 students on campus.
It also marked the year when we started extending services and support to up to 200 undergraduate and graduate students living outside
of our university campus.

Regardless of whether a student lives onor off-campus, there are several ways in which they can engage in a range of activities, events, and programs and become responsible community members from the first day they arrive. All activities are driven by students and born out of creativity, initiative, and a passion to make things happen. In 2023 we had 75 registered student-led clubs, which are part of our Constructor student community, encompassing social, political, academic, and entrepreneurial activities. They include such diverse activities as the Bremen Model United Nations, the Debating Society, the Refugee Support Network, and the student newspaper. Some groups provide an opportunity to discuss and share information related to a specific major or academic discipline with the wider community, such as the Society of Natural Sciences, the Interdisciplinary Neuroscience Society, or the Investment Banking and Capital Markets Club. This not only enables the university to contribute to various initiatives in Bremen, but also provides opportunities for cultural and linguistic integration for our students.

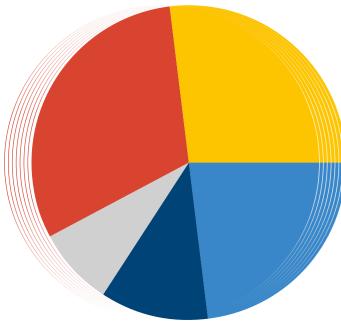
#### **STUDENT CLUBS 2022-2023**

Sports, 31%

Dance, 8%

STEM, 23%

Arts. 11%



Community &

Outreach

Service, 27%

Running a club enables students to develop a range of skills to complement their academic learning. In 2023, we provided 80 club leaders with leadership training to help them lead their clubs effectively and organize a range of events and activities.

Our four residential colleges are also a place for students to take part in programming intended to promote engagement and social development. This approach builds on research which states that students who feel part of a community are more likely to succeed academically. In the Fall of 2023, the four colleges had 5666 attendees across a range of community activities. Activities include wellness programs, stress management workshops, arts and crafts, and celebrating diverse cultural traditions such as Halloween, Christmas, Diwali, Lunar New Year and Eid.



Furthermore, we hosted a northern German universities basketball tournament and participated in the European Uni sports tournament in Antwerp.

Our rowing team represented our university in Amsterdam and the university football team finished in 8th place in the local league, which is the highest position for many years.

# 4.3. Student **Accomplishments & Professional Development**

**ACHIEVEMENTS OUTSIDE** THE CLASSROOM ALSO EXTEND **BEYOND THE CAMPUS AND THE CITY** OF BREMEN. AS EXAMPLES **OF THE MANY SIGNIFICANT** STUDENT ACHIEVEMENTS IN 2023, WE COULD MENTION CONSTRUCTOR STUDENTS KINLO EPHRIAM TANGIRI AND OMER GUZEL.

Kinlo pursued a desire to help make education more accessible in his native country Cameroon. He developed a free e-learning service, the KET Academy. The Academy offers guidance and support for mathematics, biology, physics, and social studies on platforms like You-Tube, WhatsApp, and Instagram. Kinlo taught himself the technical skills needed to set up the service. With this project, Kinlo made it into the top 50 in the international student competition Chegg.org.



Omer Guzel is not only an excellent student, but also an entrepreneur who aims to provide innovative solutions to pressing social challenges.

Omer has been the leader and founder of several clubs on campus that focus on his innovative and entrepreneurial passions, including the Lead Club and Google Developers Student Club. He also has a long history of demonstrable commitment to social and intercultural work – one example being winning awards in small film festivals, including the UNICEF Jury Certificate of Merit for Children's Rights. On campus, he is active in his residential college and holds a leadership position as Residential Support Assistant.

In 2023 he co-founded ResQme – a mobile app bridging communication between disaster victims and rescue teams, enabling location sharing, high-pitched phone ringing, and data visualization for improved response. He and his team have demonstrated their sense of social engagement, networking, and cooperation. In 2023, Omer was awarded the prestigious DAAD (Deutscher Akademischer Außendienst) prize that recognizes excellent academic achievements and outstanding social engagement.

Alongside the many achievements of individual students, the lively startup scene on campus continued to flourish, and both student and alumni entrepreneurs were able to successfully pitch and place their innovations this year: A team from the university reached the semifinals of the global Hult Prize Challenge in Tunisia, the alumni startup WasteAnt won the Bremen Startup Award, and alumnus Cornel Amariei, who became known for developing high-tech glasses for the visually impaired, managed to patent his technology in the USA.

The commitment and success of our international students did not stop there:

One team returned to campus from this year's Olympiad for students of mathematics with three gold medals and a silver medal.

Another team took second place in the DOP-PLERS-DPG physics competition. Other students invested time in neighborhood projects, organized numerous events on campus such as the Women in Leadership Conference, or spoke on behalf of the university at the United Nations Human Rights Summit in New York.



# 4.4. Entrepreneurship

The Constructor
Entrepreneurship & Innovation
Center, formerly known
as Synthesis, is constructing
the future one startup at a time.
As part of Constructor University,
the Center is dedicated to fostering
entrepreneurial growth and innovation
by supporting diverse and international
founders with the skills they need
to succeed as entrepreneurs.

## ACHIEVEMENTS OF THE CENTER AND HIGHLIGHTS FROM 2023:

#### > Launch & Program Start:

The center officially launched in September 2023, under the leadership of Ali Alam.

#### > Global & Local Engagement:

The center strengthened cross-disciplinary innovation through partnerships with institutions such as UPenn and Hult, alongside collaborations with Starthaus and START Global. The program attracted a diverse cohort of Constructor University students and global participants, significantly broadening its impact.

#### > Student Success:

Supported by the center, Constructor University was recognized as the best for its on-campus startup program by Hult. Two teams reached the Hult Prize semifinals, with one advancing to the global finals, competing for a \$1M prize. Additionally, two teams were ranked among the top 50 in the Google Solution Challenge.

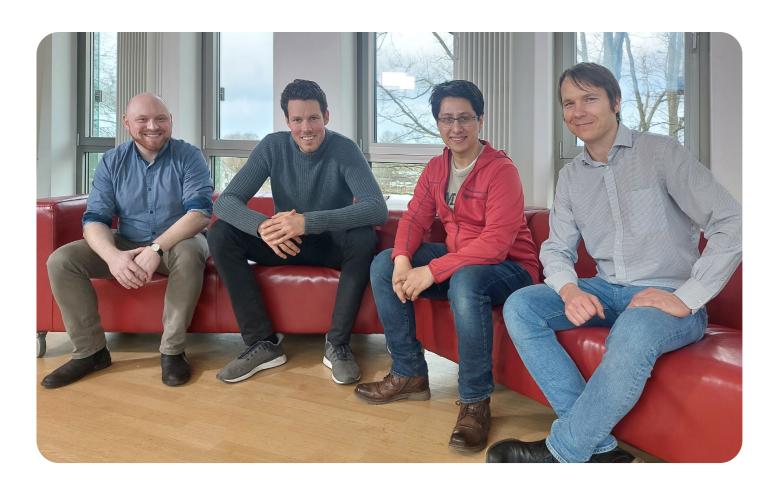
#### **>** Community Initiatives:

The center partnered with Startup Migrants on a program for migrant business founders, expanding its inclusivity. Alumni engagement was enhanced through the CUFA Board leadership workshop on tech transfer and the Alumni Homecoming entrepreneurship community workshop run by Ali Alam.

#### > Prestigious Recognition:

The center is part of the award-winning EXIST Lighthouse Startup Factory North Germany initiative, positioning Constructor University as a key player in Germany's entrepreneurial ecosystem.

The center plans to expand global collaborations, develop advanced prototyping and co-working spaces, and introduce new initiatives to scale mentorship programs and increase investment opportunities for startups. This includes the launch of an accelerator program offering a specialization in innovation for master's students, allowing them to earn credits while building startups. In addition, among other community-driven projects, a community engagement platform will be established to strengthen connections and build a supportive network.



# 5. Leadership & Faculty

# 5.1. Leadership Profile

A NEW LEADERSHIP STRUCTURE
HAS BEEN IMPLEMENTED
IN 2023, INCORPORATING
A NEW ROLE AS CHANCELLOR
OF THE UNIVERSITY.



Dr. Stanislav Protasov has become President of Constructor University, in addition to serving as Chairman of the Executive Board along with President of Constructor Knowledge. He is a well-known expert in cybersecurity, with over 20 years of experience in software development, virtualization and business management, and holder of over 350 related patents. Dr. Protasov is the co-founder of Acronis, the global leader in cyber protection. He has notable achievements in software



and product development, business strategy and people management, research and development management, employee leadership and retention, and patents and intellectual property.

Dr. Protasov won the 2022 Cybersecurity
Award in the Leaders category, presented by the Association of Information Security Professionals (AiSP) and endorsed by the Cybersecurity Agency of Singapore (CSA). He holds a Ph.D. in Computer Science.



#### **OZNUR BELL, CHANCELLOR**

Oznur Bell has become Chancellor of Constructor University. Born in Turkey to a family of education enthusiasts, Oznur Bell holds a B.S. degree in Political Science and Public Administration from Middle East Technical University, as well as various executive certifications in Marketing Management. After completing her degree, Ms. Bell moved into entrepreneurship, establishing a tourism company that eventually grew to a size of 500 employees and ten branches. Following this success, she decided to shift her focus to education, being deeply convinced that knowledge brings growth to society and mankind.

With those values in mind, Ms. Bell then launched several K-12 schools in different regions in Turkey and provided consultancy services for other brands during their foundation phases. As she took on various senior managerial roles, overseeing study cycles from kindergarten to post-doctoral studies, she also led marketing and business development activities for international universities.

Driven by her passion for education, Oznur Bell also naturally invests significant resources in philanthropic activities. On both a global and local scale, she takes part in initiatives for the betterment of humankind. Activities she supports are related to the development of children and adult education worldwide, as well as crisis relief.

#### PROF. DR. THOMAS AUF DER HEYDE

Prof. Thomas Auf der Heyde, PhD, became Vice President of International Outreach in 2023, while also serving as Managing Director of Constructor University. In his role, he oversees the expansion of strategic international partnerships and cooperations with public sector agents to complement student recruitment efforts and sharpen the international profile of the institution and open new international business opportunities.

The internationally renowned scientist and science manager joined Constructor University (then Jacobs University) as Provost in November 2019, where he led the academic operations department of the university for over three years. He was appointed to the Executive Board as Managing Director in July 2020. Auf der Heyde brought extensive experience in science and university administration to the university. Before starting at Constructor University, he was Deputy Director General of the South African Department of Science and Technology.





# 5.2. Faculty Profile

#### **PROF. DR. WERNER NAU**

In 2023, Prof. Dr. Werner Nau was appointed Interim Provost and Vice President, as well as guest member of the Executive Board of Constructor University. Prof. Dr. Nau joined Constructor University in February 2002 as a Professor in Chemistry.



He served more than 10 years as Dean of the School of Science and Undergraduate Education before he became Interim Provost in April 2023. Prof. Dr. Nau has won many awards and recognitions in chemistry and the life sciences, and he has been visiting professor at the University of Wisconsin, University of Cambridge, ICIQ Tarragona, China University of Petroleum, and IIT Guwahati. His research interests include physical-organic chemistry and supramolecular chemistry.

In his most recent series of publications, he has introduced a new method for transporting drugs and peptides into the cells, featured in the Journal of the American Chemical Society, Angewandte Chemie, Advanced Materials, and Nature.

More than 20 of the total of 45 international PhD students and postdocs he has supervised have entered academic careers around the world, most of them now in permanent professor positions, and many in their home countries.



Our faculty was also significantly bolstered in 2023 with the addition of diverse and motivated researchers across various departments:

## SCHOOL OF BUSINESS, SOCIAL AND DECISION SCIENCES:

#### **DR PINGPING MECKEL**

Senior Lecturer in Business, specializing in Entrepreneurial Learning and Startups, joined from the University of Central Lancashire.

#### **DR MATHIAS MECKEL**

Distinguished Lecturer in Management, brings extensive industry and research expertise.

#### **PROF SOHAIB HASSAN**

Assistant Prof. in Management Science and Business Analytics, specializing in Innovation Economics, moved from Siegen University.

#### **SCHOOL OF SCIENCE:**

#### **DR IVAN OVSYANNIKOV**

Lecturer in Mathematics, specializing in chaos theory and its industrial applications.

#### **PROF KATRIN ROSENTHAL**

Assistant Professor of Biotechnology, joined from TU Dortmund and specializes in enzyme cascades and biotransformation processes.

#### **PROF ANNA TEVYASHOVA**

Assistant Professor of Medicinal Chemistry, moved from the Gause Institute of New Antibiotics, and specializes in the chemical transformation of natural antibiotics.

#### **PROF PETR POPOV**

Adjunct Professor, explores interdisciplinary research at the intersection of Mathematics, Computer Science, Physics, and Biology.

#### **PROF THOMAS FRAUENHEIM**

Adjunct Professor of Computational Materials Science, studies the properties and behavior of materials at the atomic and molecular level.

## SCHOOL OF COMPUTER SCIENCE AND ENGINEERING:

#### **DR YOUSAF SUHAIL**

Lecturer in Computer Science, specializes in IoT, AI, and Distributed Systems, and joined from Peshawar University.

#### **DR DMITRY KROPOTOV**

Lecturer in Data Science and Software Technology, joined from the Bayesian Methods Group at Moscow State University.

#### **PROF JACOB SUCHAN**

Assistant Professor of Computer Science, specializing in Visual Computing, joined from DLR Oldenburg.

#### **PROF DMITRY VETROV**

Has a research focus on combining Bayesian framework with Deep Learning models.

Additionally, 6 new Adjunct Professors will contribute to research and teaching in CSE:

Timofey Bryksin, Kirill Krinkin, Anton Popkopaev, Andrey Ustyuzhanin, Manuel Oriol and Markus Wenzel.



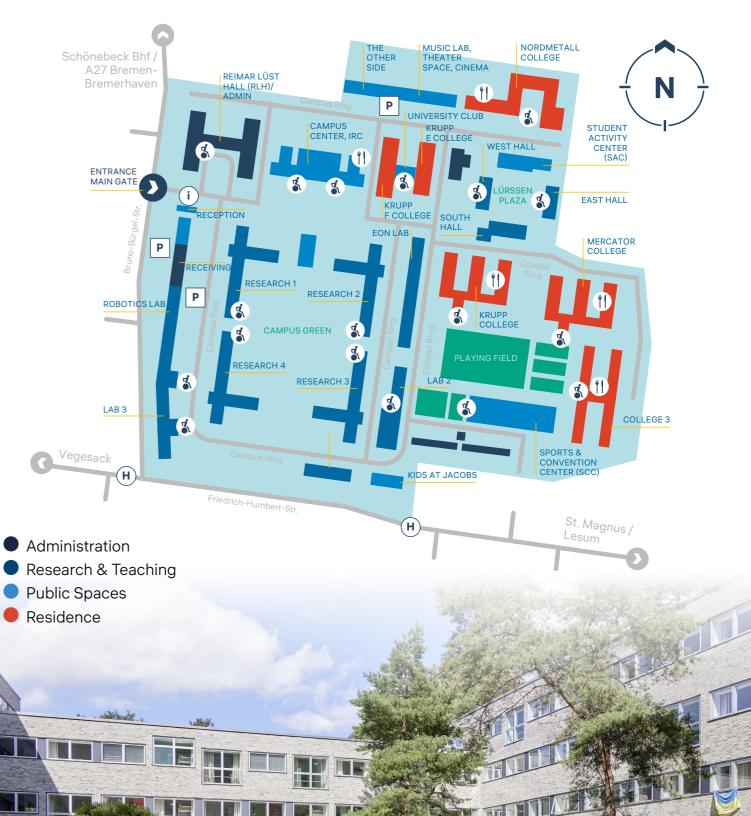
# CONSTRUCTOR UNIVERSITY'S GREEN, TREE-SHADED CAMPUS COVERS AN AREA OF 34 HECTARES. THE ARCHITECTURE COMBINES MODERN DESIGNS WITH GABLED BRICK STRUCTURES BUILT IN THE LAST CENTURY.

The campus includes state-of-the-art teaching and research buildings, administrative offices, residential facilities and public spaces. Students can stay fit and creative with vibrant arts facilities like TheaterSpace and MusicLab, both student- and staff-led initiatives. The Sports and Convention Center features multi-purpose halls, a fitness center, a rowing tank, and various outdoor courts. The library, part of the Information Resource Center, is located in the Campus Center, which was renovated in 2022 to create new spaces.



As our university grows, together with the architecture firm "Hilmes Lamprecht" we have elaborated a development plan for the coming decade. This masterplan, finalized and approved in 2023, includes a vision of how the grounds will be developed and expanded over the next ten years.

## **Campus Map**





### 7.1. Revenue

IN THE ACADEMIC WORLD, CONSTRUCTOR UNIVERSITY STANDS FOR GROWTH AND INNOVATION. ON OUR STRATEGIC JOURNEY, WE HAVE INITIATED KEY PARTNERSHIPS AND IMPLEMENTED VISIONARY INITIATIVES TO DRIVE OUR PATH TO EXCELLENCE.

At the forefront of our strategic alliances is a groundbreaking collaboration with the European Investment Fund (EIF), bolstering financing options for students. This strategic move not only minimizes the risk of loan defaults but also amplifies accessibility to education, ensuring that financial constraints do not impede the pursuit of knowledge.

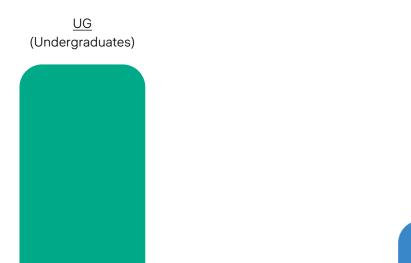
In parallel, Constructor University has cultivated partnerships with leading industry players such as JetBrains, redefining the boundaries between academia and the corporate world. These collaborations not only inject capital into the university's coffers, but also provide students with access to innovative resources and technologies, enriching their learning experiences and equipping them with practical skills for the future.

#### **REVENUE**

Our revenue in 2023 was structured as follows:

Research & Transfer

15.76%



G+SP

(Graduates &

Special

Programs)

6.52%

37.87%

OE

(Online

Education)

0.07%

# Donations (Stipends & External (Executive Education & B2B Education) Donations (Stipends & External Scholarships) 0.62%

# 7.2. Grants & Scholarships

IN 2023 WE WERE ABLE TO AWARD EXTERNAL SCHOLARSHIPS FOR 54 STUDENTS, THROUGH THE SUPPORT OF FOUNDATIONS, EXTERNAL DONORS, AND COOPERATIONS.

Among others, a number of places were funded by the following social initiatives:

- SOS Kinderdörfer weltweit this contract offers the possibility for Global Scholarship Program stipend-holders to study at Constructor University Bremen – new contract signed in 2023 for 5 years (on average 7 BA students in the current academic year on campus)
- Young talents from Ukraine 10 scholarships in the program for Ukrainian young talents – external donor

- The Wolfgang Ritter Foundation awarded scholarships for international PhD students at CUB in 2023, based on their academic performance and financial need
- 2 Alumni scholarships awarded in 2023
- Mathematics talents cooperation with the Sparkasse Bremen – scholarship for the bachelor's student study program in Mathematics – 5 students in the program

In addition, Roche Germany continued its successful Cooperative Study Program with CUB Data Engineering Masters students in 2023. The program includes a three-month internship at Roche in Penzberg, mentoring by company representatives throughout the entire study period, and a master's thesis in cooperation with the company.

Institutional Grants

38.50%

Other

Income

0.62%



# 8. Partnerships & Collaborations

## 8.1. International Collaborations



ESTABLISHED IN APRIL 2023,
THE INTERNATIONAL OUTREACH
DEPARTMENT PLAYS A PIVOTAL ROLE
IN ENHANCING THE UNIVERSITY'S
GLOBAL PRESENCE AND IMPACT
IN PURSUIT OF NEW BUSINESS
OPPORTUNITIES.

It also contributes to cross-cultural understanding, facilitates academic partnerships to enrich the academic experience for students and staff, and supports initiatives that promote diversity, inclusion, and global citizenship.

A key activity involves "roadshows" to strategically identified countries to actively engage relevant German embassies, DAAD offices and other cooperation agencies, local ministries, universities, schools, educational agencies, relevant companies, and other key stakeholders in the country. These roadshows serve as dynamic platforms to highlight the university's academic offerings, building a strong presence abroad and establishing partnerships with governmental bodies and other stakeholders around a range of academic and scientific services and products.

#### **ACTIVITIES**

- Roadshow activities in 6 countries (Kyrgyzstan, Uzbekistan, Egypt, South Africa, Kenya, and Rwanda).
- Introduction of Constructor University to foreign embassies: The university was presented to 9 foreign embassies in Berlin, up to the level of ambassador.
- Engagements with ministries: Presentations on the university were made to 13 foreign ministries (typically Higher Education and ICT).
- German diplomatic missions: Engagement with 6 German embassies and 5 DAAD (German Academic Exchange Service) offices, as well as 10 other governmental bodies including GIZ, DB, and German Chambers of Commerce for Foreign Trade (AHK, Auslandshandelskammer).
- Presentations to universities: Visits to 20 universities worldwide, resulting in 10 Memorandums of Understanding (MoUs) and Exchange Agreements.
- Schools/school chains: Presentation of Constructor University to 40 schools and MoUs with top school chains in Pakistan and Rwanda.
- Educational outreach seminars: Reaching over 1,500 international students worldwide.
- Educational Agencies: Introduction of Constructor University to 35 educational agencies for student recruitment.

Governmental Scholarships: MoU with Bolashak International Scholarship in Kazakhstan (13 scientists financed by the government to have a Research Internship Program), cohort enrollments by the Iraqi government, establishment of the Pre-Degree Semester Program and enrollment of 9 students.

The International Office and International Outreach jointly seek to grow the overall portfolio of partnerships and agreements, to create greater awareness of Constructor University internationally. To facilitate these objectives, strategic partnerships have been formed and the number of MoUs has increased.

In 2023, the International Office and the International Outreach team added partnerships through to 2028. We are particularly excited about our growing portfolio of partnerships that provide our students with increasing opportunities with leading institutions such as the University of California, Berkeley Summer School or Ohio State University. We are also striving to continue to grow the Erasmus partnerships, as we did in 2023 with our new partnership with Politecnico di Milano. Moving forward, we hope to add our first Irish partnership. A final highlight of 2023 is that we successfully expanded the regional reach and diversity of our new partnerships with the universities of Canberra, Macau, Dar es Salaam, and Misr University for Science and Technology in Egypt, to name but a few.



# 8.2. Industry Partnerships

COMPANIES RANGING FROM
SMALL AND MEDIUM-SIZED
ENTERPRISES (SMES) TO LARGE
DAX-LISTED CORPORATIONS
COLLABORATE WITH CONSTRUCTOR
UNIVERSITY'S INTERDISCIPLINARY
TEAMS, COMPRISED OF EXPERTS
AND SPECIALISTS DRAWN
FROM ACROSS OUR DIVERSE
SPECTRUM OF RESEARCH FIELDS.

Our industry partners benefit from customized projects, personalized development, research cooperation, or knowledge transfer.

Our focus for the current financial year is on initiating new major projects, consolidating existing partnerships, acquiring new customers from the region, and initiating new collaborations, particularly in the field of computer science with the new professors appointed to Constructor University.

In the 2023 financial year, Constructor University successfully extended large projects with key accounts and acquired new industrial cooperations. Moreover, third-party research funding revenue from industrial partnerships reached a historic high of EUR 3.1 million in 2023 (previous year: EUR 1.9 million).

# 8.3. Alumni Engagement

THE CONSTRUCTOR ALUMNI
COMMUNITY ENDEAVORS TO FOSTER
A ROBUST NETWORK THAT REFLECTS
THE CORE VALUES OF CONSTRUCTOR,
WHILE SERVING AS A GLOBAL
AMBASSADOR FOR OUR ECOSYSTEM.

In 2023, our strategic priority was to cultivate a stronger connection following the university's rebranding, which was met with mixed reactions from the alumni community. Our goal was to rebuild trust and foster greater engagement through a range of initiatives and events, while also highlighting the outstanding achievements and invaluable contributions of our alumni.

Our mission was centered on nurturing a cohesive community among alumni and strengthening their ties to Constructor. Throughout the year, we organized numerous engagement initiatives and events to achieve this objective, highlighting the diverse talents and accomplishments of our alumni.

#### **KEY STATISTICS**

The Class of 2023, comprising more than 350 graduates, represented 86 countries, with the three most popular academic programs being:

- Computer Science.
- Industrial Engineering & Management.
- Biochemistry and Cell Biology.

Data from the 2022 Alumni Census was compiled and presented to obtain a better understanding of the professional trajectory of our graduates:

- > Around 70% of alumni live in Europe.
- Over 60% speak at least three languages.
- 60% have gone on to further studies, including 18% who have completed a PhD.
- 22% of undergraduate alumni have gone on to study at universities in the Ivy League, the Russell Group, or the Times Higher Education World University Rankings Top 10 (2022 rankings).
- Over 84% of alumni work and live in high-income countries (as defined by the World Bank).
- 68% work at a for-profit organization,
   21% at a government or other public institution, 11% at a non-profit or NGO.
- Alumni working in Europe earn15% more than the German average.
- → €50,000 the largest private donation to the university has come from an alumnus.



#### **SELECTED SUCCESS STORIES**

#### Celebrating the achievements of our alumni community, here are some success stories chosen from the past year:

- Through a crowdfunding campaign among the alumni community, we supported alumna Sarah Winkelmann (BA 2016) as she became the youngest German woman to cross Greenland on skis. Sarah also delivered an inspiring on-campus talk about how her adventure parallels the mindset of entrepreneurs.
- Alumni meetups in Bremen, Munich, and multiple events in Zurich, including a celebration of seven years of Constructor Academy.

- Alumni startup WasteAnt was honored with the Gründerpreis (Startup Award) by the state of Bremen at the Bremen startup summit. WasteAnt was cofounded by Dr. Christian Müller (PhD 2019), Dr. Szymon Krupinski (BSc 2005), and Arturo Gomez Chavez (PhD 2019).
- The highlight of our year was the annual Alumni Homecoming, themed as "Alumni Assemble." It attracted over 100 participants, bringing together alumni from IUB, Jacobs, and Constructor across generations. The event fostered strong connections and generated donations for continued support of the Alumni Scholarship Fund.

## In addition to Homecoming, the office initiated and supported the following events:

- The annual Constructor University Foundation of America reunion, held in 2023 in New York City, served to reinforce bonds among alumni from diverse regions.
- Christmas Market Meetups held in Amsterdam, Bremen, Berlin, Frankfurt, Hamburg, Munich, San Francisco, and Zurich, attracting over 100 alumni to celebrate the holiday season.

Additionally, women's participation in STEM fields is a key topic for our community. By examining the representation of women in STEM disciplines among our alumni, we aim to foster inclusivity and support the advancement of women in traditionally male-dominated fields. This analysis underscores our commitment to gender equality and diversity in education and beyond.

At Constructor University, the proportion of female alumni stands at approximately 44%. Within STEM disciplines, this figure remains strong, at 39% of the overall alumni population. Compared to the broader trend, the average proportion of female STEM students in the European Union stood at 34% in 2023 (Source: European Student Think Tank).



In 2023, our graduating class boasted representation from 94 countries, reflecting a rich tapestry of diversity. Notably, no single country dominates the cohort, with the most represented country, Germany, comprising only 17.5% of the total. The top five countries collectively account for 50.5% of the cohort, while the remaining 49.5% hail from 89 other countries.

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# 9. Community Engagement & Outreach

# 9.1. Community Impact

IMPACT ENGAGEMENT IS AN INTEGRAL PART OF THE IDENTITY OF CONSTRUCTOR UNIVERSITY AS AN INTERNATIONAL COMMUNITY THAT STRIVES TO AFFECT POSITIVE SOCIETAL CHANGE.
BY PROACTIVELY INTERACTING WITH THE LOCAL AND REGIONAL COMMUNITIES OF THE FREE HANSEATIC CITY OF BREMEN AND NORTHERN GERMANY, CONSTRUCTOR UNIVERSITY HELPS ADDRESS AND FIND SOLUTIONS FOR LOCAL AND GLOBAL CHALLENGES.

Building on our university's significant contributions in 2022 of hosting a refugee center on campus, 2023 saw an upswing through greater interaction with governmental and non-governmental organizations in Bremen. This effort to expand our wider societal relations was driven by two new organizational units: Government Relations and University Advancement. Together with other departments and in collaboration with student groups, Constructor University's commitment to supporting civic activities and addressing challenges has achieved more impact.

#### **HIGHLIGHTS OF 2023 INCLUDE:**

hosting the Vegesack New Year's Reception on campus with prominent locals and politicians; hosting the East Asian Society for a panel discussion about German-Singapore business and social development; organizing and supporting disaster relief efforts in collaboration with local organizations for various global disasters like earthquakes or floods, etc.; and continuing our annual tradition of organizing the 'Make a Wish' campaign, which provides presents to local disadvantaged children.

Furthermore, Constructor University's community engagement focuses on educational outreach opportunities for both schoolchildren and students at our university. These activities are bundled in the Language and Community Center (LCC) which organizes STEM (in German: MINT) initiatives and the Community Impact Project (CIP). Together, these efforts create significant impact by providing additional educational opportunities for local and regional pupils free of charge (via third-party funding), and by channeling student energy to help solve local issues through applying their knowledge via their curricular CIPs.



#### **2023 STEM HIGHLIGHTS INCLUDE:**

the Bremer MINT-Tag (part of the Bremer MINTforum), with lectures, workshops, Q&A sessions and campus tours for Bremen school classes; participating in MINT-EC Network Events for schools with senior high students and an outstanding school profile in mathematics, science and technology; contributing to meerMINT activities and workshops in collaboration with Uni Bremen, Universum, Phänomenta Bremerhaven, and M2C Hochschule Bremen; and hosting MINTernational Workshops for local young people jointly with students from the Massachusetts Institute of Technology (MIT).

#### **2023 CIP HIGHLIGHTS INCLUDE:**

Students Teach, which connects Constructor University students with schools in our region to offer our students' expertise in their respective study fields, their digital knowledge, and diverse backgrounds that offer new skills to high school students and help them draw motivation and ideas regarding their future options; Traffic Strategy for Bremen, where CU students are supporting official Bremen agencies responsible for traffic organization by applying their skills to increase ridesharing/carsharing, in order to reduce the number of cars in the city and thus lower CO2 emissions; and Hood Training, where students aim to integrate youths from less advantaged socio-economic backgrounds through sports programs and other activities.

In 2024, the aim is to further expand the participation and interaction between local young people and CU students, to have even more positive impact on each other.

# 9.2. Public Events & Outreach Programs

2023 MARKED THE FIRST YEAR OF THE NEW PUBLIC ENGAGEMENT (PE) UNIT OF THE RESEARCH AND TRANSFER DIVISION. DEDICATED TO SUPPORTING RESEARCHERS IN ENGAGING WITH THE PUBLIC, IN ITS FIRST YEAR THE PE UNIT SUPPORTED 20+ PROJECTS INVOLVING 50+ RESEARCHERS AND ENGAGING WITH 1500+ MEMBERS OF THE PUBLIC.

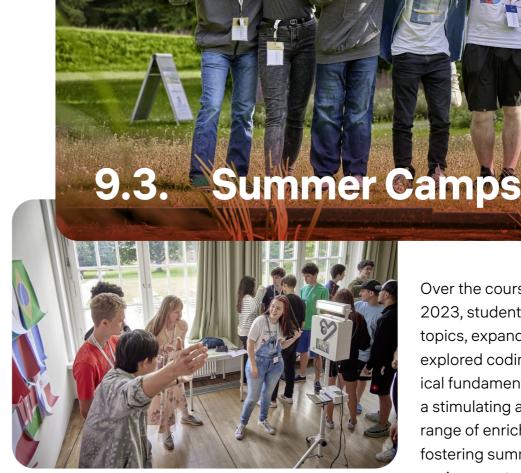
These included events, exhibitions, and festivals, produced in collaboration with local organizations such as the Kulturbüro Bremen Nord, the House of Science Bremen, and the Network for Science Communication for Bremen and Bremerhaven. CU researchers shared and discussed with the public about the latest groundbreaking research which will impact the future of society.

Moreover, researchers also collaborated in a co-creation mode by working directly with the public on research projects – creating knowledge together. To help support all these efforts, the PE Unit also offered training opportunities for researchers to learn more

about how to engage the public, from the fundamentals of science communication to designing and creating research projects involving the public from the very beginning.

In 2024, the PE unit is working to expand the visibility, promotion, and impact of public research engagement. In particular, the aim is to build a two-way bridge that connects CU and the public and researchers at all points in careers: school pupils, high school students, undergraduate students, graduate students, PhDs, post-docs, and faculty. This bridge will help us to create and transport knowledge with greater impact, to construct a better future together.





THE SUMMER CAMPS
AT CONSTRUCTOR UNIVERSITY
OFFER A UNIQUE EXPERIENCE
THAT BLENDS ACADEMIC
ENRICHMENT, LANGUAGE
LEARNING, AND CULTURAL
EXPLORATION.

Over the course of 12 days in mid-summer 2023, students delved into Computer Science topics, expanding their knowledge of STEM, and explored coding, programming, and mathematical fundamentals. The camp provided not only a stimulating academic curriculum, but also a range of enriching creative and sports activities, fostering summer memories in an intercultural environment where over 15 nationalities were represented. Participants enjoyed a comprehensive experience of university student life while staying on our vibrant campus in Bremen. In addition, participants had the chance to discover the historic landmarks of Bremen and visit the manufacturing center of Mercedes-Benz, while excursions to the city of Hamburg offered an immersive experience of German culture.





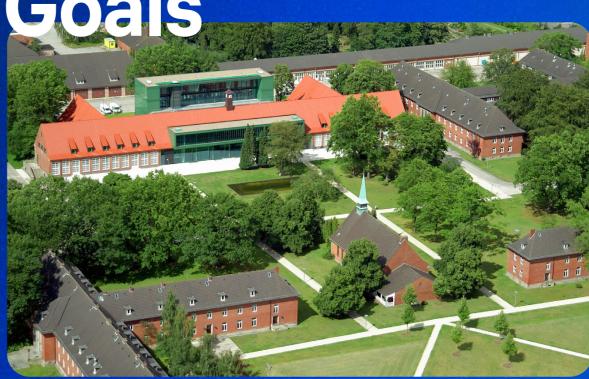
The 2023 Summer Camps were very well-received, as was reflected in participants' testimonials. Colin Wong from the Philippines said, "Going to summer camp was a really fun and eye-opening experience. I got to meet a lot of new and awe-some people and made many new friends throughout the duration of the camp. All the classes were fun and exciting, as I was able to learn a lot from the teachers, who, by the way, were amazing. It's definitely an experience that I will never forget, and I will be forever thankful to have been a part of this camp!".

In the summer of 2024, Constructor University is hosting three summer camps as part of the larger Constructor Talent School initiative. This innovative project is tailored for high school students, offering a comprehensive range of opportunities including summer programs, online courses, competitions, webinars, and masterclasses designed for individuals aged 15 to 19 years old.

Expecting over 300 students across various Constructor Talent School activities, we are thrilled to welcome a diverse cohort of high school students.

Through interactive classes, our primary goal is to broaden academic horizons, create a likeminded cross-cultural community, and encourage personal growth among young learners.

10. Outlook & Goals



AS WE LOOK TO THE FUTURE,
CONSTRUCTOR UNIVERSITY STANDS
READY TO BUILD ON ITS RICH HISTORY
AND RECENT SUCCESSES, SETTING
AMBITIOUS GOALS THAT WILL GUIDE OUR
PROGRESS OVER THE COMING YEARS.

We are committed to expanding our quality education offerings to a diverse body of students internationally. We aim to continue growing our on-campus programs while also fostering a thriving community of online learners.

Research excellence remains at the heart of our mission. We will continue to excel in selected areas of research, leveraging strategic investments and collaborations to amplify our im-

pact on the global stage. By fostering a culture of innovation and interdisciplinary collaboration, we will drive discoveries that shape the future.

Financial sustainability is crucial for our continued growth and success. We are dedicated to building a strong financial foundation that supports our ambitious goals and ensures our enduring legacy of excellence.

The future of Constructor University is bright, filled with promise and potential. With clear strategic priorities guiding our path, we are confident that we will achieve our goals and continue to make a meaningful impact on society. Together, as a united and forward-thinking community, we will construct a better future for all.

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