



Activity Report 2025/26

Eurac Research

Navigating crises

How does a research center navigate the AI revolution, global instability, and growing competition for public attention and funding?

A conversation with
CEO Stephan Ortner and
Deputy CEO Roberta Bottarin

Climate crisis: reports of damage caused by extreme weather events continue to dominate the news, and the scientific urgency remains high, yet public attention has shifted elsewhere, and many politicians are prioritizing other crises. As a research center that has worked on these issues from the very beginning, how do you assess the current situation?

Stephan Ortner: Public and political attention follows media cycles, and right now other emergencies are taking center stage: war, inflation, and energy costs. We've seen this before in other research fields, which have gone through periods of greater and lesser visibility, though never on this scale. As a research center, we must be flexible and adapt our strategies; at the same time, we must maintain a long-term vision with firm objectives.

Roberta Bottarin: It's simply unthinkable that people could maintain such a high

level of attention for such a long time. I believe it's important that even, or especially, when politics looks the other way, research defends the urgency and importance of the climate crisis, ideally finding suitable channels to engage society.

Ortner: Personally, I am convinced that alarmism when discussing climate change is counterproductive. Rather, I believe we should emphasize that the transition to a system less dependent on fossil fuels does not only entail sacrifices but can improve quality of life. Our research focuses precisely on these aspects, for example on energy scenarios or adaptation strategies across various economic sectors and in society. Of course, what we do as individuals or even in our small province may seem to have little impact, especially with wars raging elsewhere, but it is what we can concretely do to counter frustration and help build the resilience needed to adapt to this new reality.



Stephan Ortner, Roberta Bottarin, Roland Psenner

One of the chapters in this activity report begins with the question: “Can we afford to give up on diversity?” Is this a provocation or a research direction?

Bottarin: From both a biological and a social perspective, diversity is always an added value: it acts as a buffer, a protective mechanism within the system. It's true, it poses major challenges, for example in terms of coexistence. A more uniform world might have fewer tensions and decision-making would be simpler, but that does not reflect reality.

Ortner: Diversity doesn't come for free: it involves conflicts, resistance, and the need for mediation. But the more complex a system is, the more resilient it is, and the more capable it is of generating innovation.

Let's talk about a technical aspect of research work. Is AI changing the way results are published and shared?

Bottarin: Artificial intelligence, in itself a tool with enormous potential, is also revolutionizing the world of scientific publishing. On the one hand, there is an unprecedented output of articles that are formally convincing but vary greatly in quality. On the

other hand, scientific journals are struggling under this pressure. Quite a few have begun using AI for peer review as well, but this weakens the role of quality guarantors they traditionally played. The number of publications is no longer a relevant factor in evaluating research, and publishing high-quality work is becoming increasingly difficult.

What antidotes are there?

Ortner: Open science is the most promising path forward. Sharing data, protocols, and code is a form of safeguard because it strengthens the verifiability of results. Furthermore, the academic world is seeking new, comparable, and reliable metrics to evaluate research outcomes.

Bottarin: Since September, we have been part of the CoARA network (The Coalition for Advancing Research Assessment) along with 700 other institutions. This international network is working to reform the methods and processes used to evaluate research and we are currently, as stipulated in the membership agreement, working on a concrete and binding action plan.



“Research is either applied –
or waiting for its application
to be found.”



—→ **From time to time, I find myself reflecting** on my own statement because at the beginning of my career I was engaged in what is commonly called basic research – exploring questions about the origin of life, the evolution of the biosphere, and the functioning of ecosystems. These are subjects that do not immediately call for practical application and whose value lies in themselves rather than in any potential future use. Yet when I think about everyday things – such as smartphones, medicines, or modern communication – it becomes clear that all of these achievements are rooted in fundamental discoveries. Discoveries that were rarely pursued with a specific application in mind (“What can this be used for?”), and whose significance could hardly have been foreseen. Fortunate coincidences – what we call serendipity – have contributed enormously to the knowledge we possess today. I therefore see no contradiction between basic and applied research, nor between the humanities, social sciences, natural sciences, and engineering: they are equally important and equally valuable. Their combination is, in fact, a particular strength. Eurac Research brings together basic and applied research across disciplines, creating space for new perspectives and new questions. What conclusions we draw from research findings, whether and when – and above all how – we apply this knowledge, ultimately depends on us. This annual report demonstrates how closely intertwined these paths are and invites readers to discover for themselves what is being created here and what makes Eurac Research unique.

Roland Psenner, President

Do we still need people to monitor the environment?



Digital allies

Last spring, a team of researchers – including biologist Benjamin Kostner (pictured) – installed nine acoustic recorders across seven ecological sites in South Tyrol and Vorarlberg, Austria. Throughout the mating season of the capercaillie – a rare and highly sensitive woodland grouse native to Alpine forests – the devices captured hundreds of hours of forest soundscapes. Yet technology alone is not enough: field expertise remains essential. Researchers identify the monitoring sites, validate the recordings, and translate the data into effective conservation strategies.

Nature and AI

- 08 How to manage water when it becomes scarce
- 09 Real-time data from the open-air laboratory in the Matsch/Mazia valley available online
- 10 Organoids: medicine of the future
- 12 The switch
- 13 Is the apple healthy?
- 14 Rising risks: wildfires, infestations, and storms

How to manage water when it becomes scarce

“In Trentino, northern Italy, the Sarca River and its tributaries in the Valle dei Laghi are essential both for hydropower production and for agriculture,” explains Valentina D’Alonzo, researcher at Eurac Research and coordinator of the Trentino case study within the European IMPETUS project. The Santa Massenza hydropower plant alone helps supply electricity to much of the province of Trento, while agriculture – particularly viticulture – is the region’s second largest consumer of water. In recent years, however, climate change and increasingly frequent droughts have intensified competition between these sectors. How can water

resources be managed when availability declines? A new web application now enables real-time monitoring of water availability and helps anticipate future scenarios, supporting more integrated and informed water governance. The platform is one of the outcomes of the Horizon 2020 IMPETUS project, which develops practical solutions for adapting to climate change.



Real-time data from the open-air laboratory in the Matsch/Mazia valley available online

Since 2008, the climate and ecosystems of the Matsch/Mazia valley have been the focus of scientific research and, since 2014, part of the International Long-Term Ecological Research (LTER) network. A new website makes the results of this long-term research publicly accessible for the first time. Visitors can explore habitats along an altitudinal profile ranging from 1,100 to 2,700 meters above sea level – from species-rich grasslands and forests to dry pastures and proglacial landscapes. Each monitoring station features real-time meteorological data, accessible explanations of research methods, and key findings such as the one on the right.



New Open Air Laboratory website

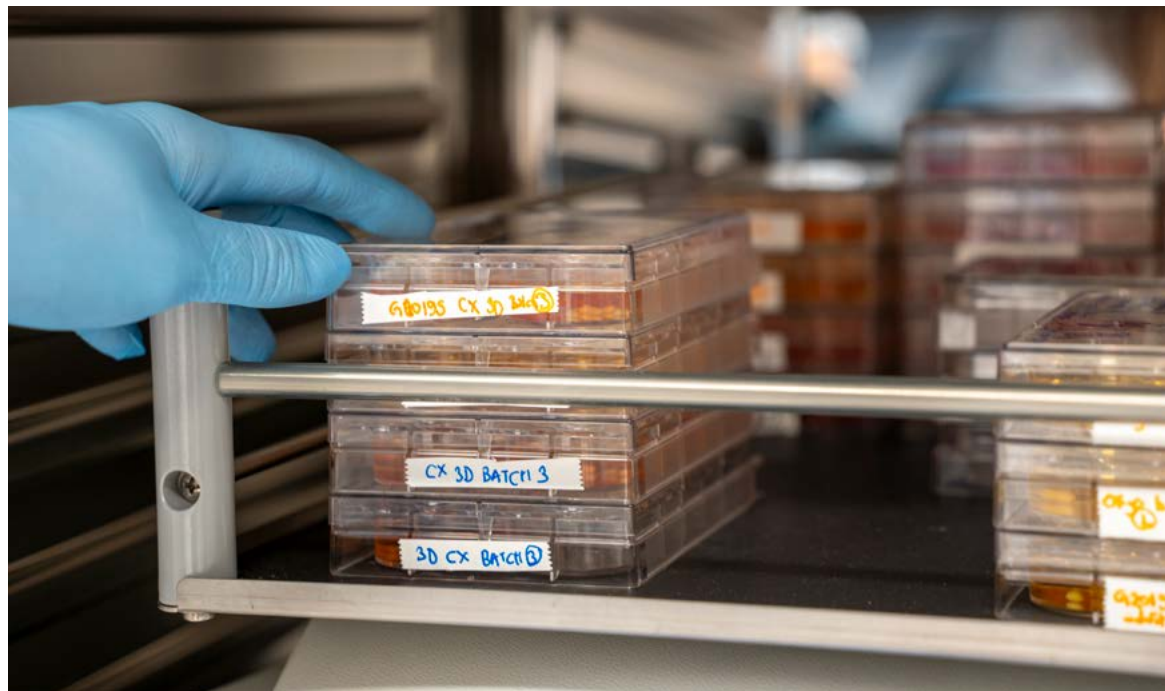
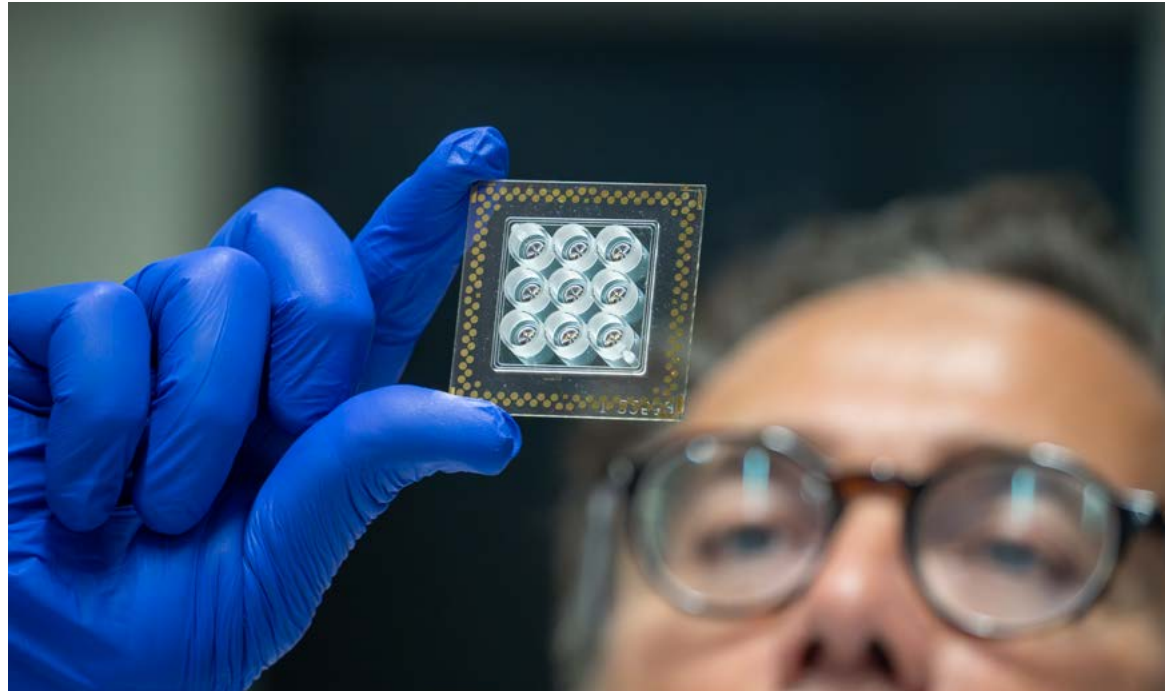


A photograph from 17 years ago: in the front, Georg Niedrist and behind him, Armin Rist carrying equipment to install the first monitoring stations in Matsch/Mazia valley.

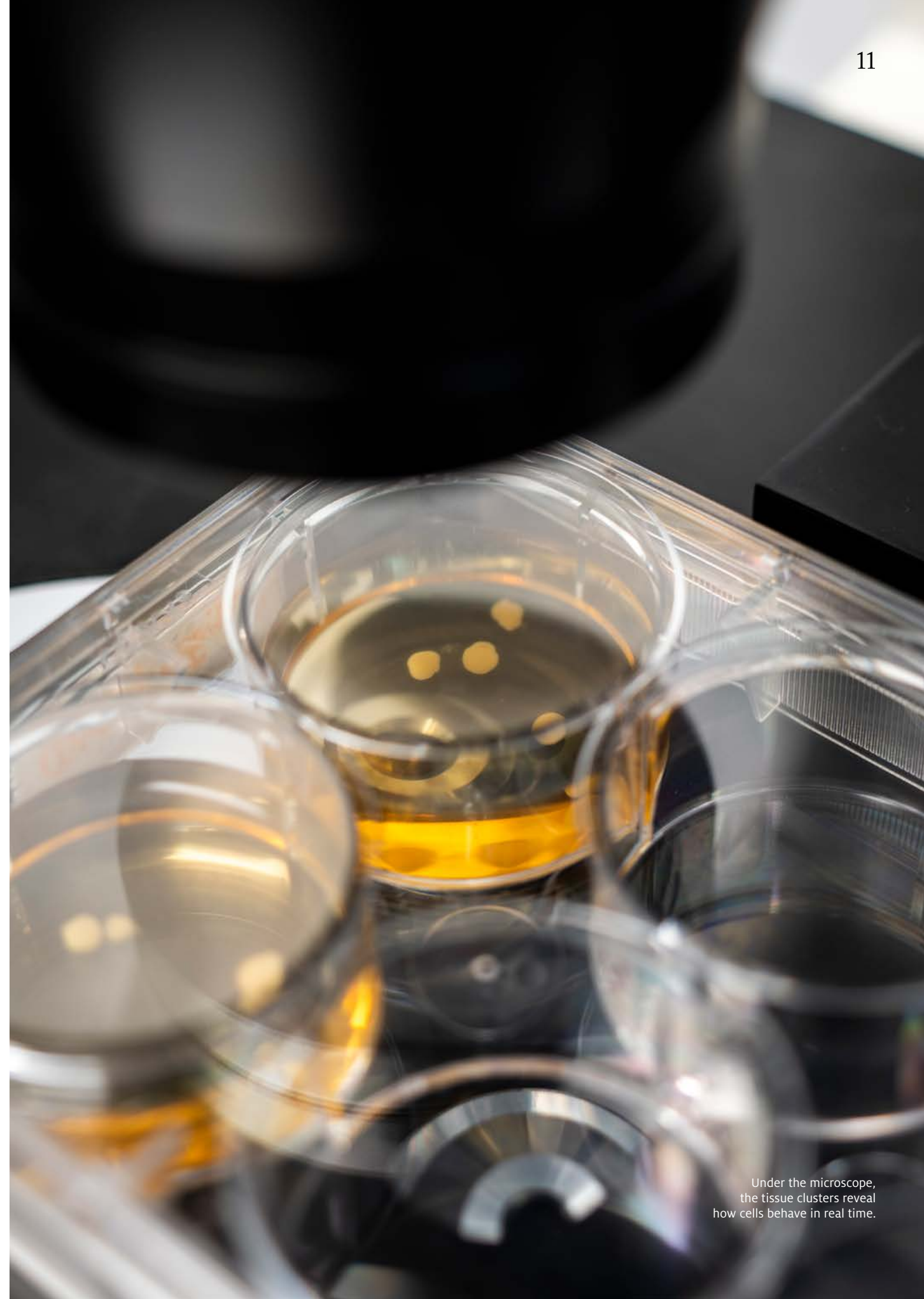


75%

The percentage of the water flowing through the Saldur/Saldura stream in late spring that comes from snowmelt, while 62 percent of the water flowing in summer comes from glacier melt. In 1850 the extent of the of the Matscherferner/ghiacciaio di Mazia was 4.88 square kilometers. To date, 54 percent of the area glacier has disappeared.



Specialized microchips allow researchers to precisely control the environment surrounding organoids, recreating conditions similar to those inside the human body. The organoids are maintained in incubators at 37°C with a CO₂ concentration of 5%, ensuring optimal conditions for growth and development.



Under the microscope, the tissue clusters reveal how cells behave in real time.

Organoids: medicine of the future

Organoids are tiny clusters of human cells – often no larger than a pinhead – derived from stem cells and capable of mimicking the behavior and functions of human organs. In medical research they are becoming a valuable tool for understanding diseases and for developing and testing new therapeutic approaches. At Eurac Research, teams are currently using organoids to study neurodegenerative and cardiovascular diseases.

These small 3D models, which replicate parts of the brain or heart tissue, are placed inside specialized microchips that allow precise control of environmental conditions, enabling the organoids to behave almost as if they were inside the human body. Known as organs-on-chips (OoCs), these systems make it possible to recreate disease conditions and study responses to stimuli and drugs with greater precision than conventional methods – and without the need for animal testing. For years, Eurac Research has focused on developing alternative and complementary methods to animal experi-

mentation in preclinical research. This aligns with international efforts to reduce animal testing, both for ethical reasons and because results from animal models often translate only partially to humans. Research on organoids is also a key component of a health-oriented approach known as Precision Health, explains Andrew Hicks, deputy head of the Institute for Biomedicine: “The goal is to understand how diseases develop before symptoms appear, and to use this knowledge to design scientifically grounded strategies for targeted prevention.” Eurac Research currently coordinates two EU co-funded projects: INNo-CHIP, a collaboration between Italy and Switzerland aimed at developing OoC prototypes that closely replicate human biology; and CELLMED, which will expand Eurac Research’s laboratory capacities and develop innovative human cell models to investigate disease mechanisms and accelerate drug screening (see page 51).

The switch

DSP-AS1 is the name of a short sequence in the human genome that acts like a biological switch. When it is turned on, it stops the production of the protein desmoplakin – a protein that helps the heart beat regularly.

A biomedical research team led by biologist Marzia De Bortoli discovered DSP-AS1 while analyzing data from the CHRIS population study in South Tyrol’s Vinschgau/Venosta valley. The researchers were searching for genetic variants that could explain differences in heart rhythm among healthy people. Their goal was to better understand arrhythmogenic cardiomyopathy, a rare but serious heart disease.

The discovery of DSP-AS1 is promising because the disease is often more severe in patients who lack desmoplakin. The researchers have already designed molecules that successfully interacted with DSP-AS1 partially inhibiting it in laboratory cell experiments, allowing heart cells to produce more desmoplakin. The next step is to test these molecules on engineered heart tissues – artificial heart tissue models created from patients’ cells.



Is the apple healthy?

An apple may look perfectly healthy, even while disease is already developing beneath its skin. To detect these hidden signs before they become visible, researchers are using hyperspectral imaging – a technology that captures reflected light far beyond the range detectable by the human eye. Each apple is scanned across hundreds of wavelengths, creating a unique spectral fingerprint of its condition.

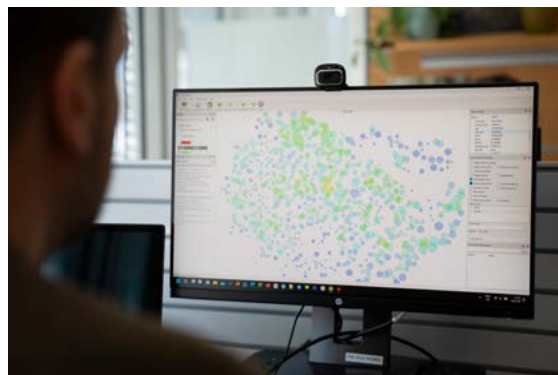
As part of the HIPPA research project, led by unibz in collaboration with Eurac Research, Laimburg, and MiCROTEC, artificial intelligence is being trained to interpret these patterns and identify pathogens and defects at a very early stage. By turning light into actionable knowledge, the technology could one day be integrated into sorting systems and harvesting equipment, helping to reduce food waste and crop losses.



↑ A massive wildfire in the Vinschgau/Venosta valley in April 2025.

→ Bark beetle damaged tree trunks; in the background, researchers are preparing to collect field data.

↓ Marco Mina joined Eurac Research as a Marie Curie Fellow – one of 17 fellows welcomed over the past decade. Today, he is a senior researcher and, starting this year, has taken on a new role as mentor to the next generation of Marie Curie Fellows.



Of greatest concern is the rise in wildfires, especially in the Mediterranean region.



Rising risks: wildfires, infestations, and storms

Thanks to the vast amount of satellite data now available and a pioneering application of artificial intelligence, an international research consortium – including Eurac Research – has carried out an unprecedented study of Europe's forests, published in last March's edition of the Science Journal. The simulation covered all 185 million hectares of European forest at a high spatial resolution of 100 square meters.

To project how forests may evolve in the coming decades, the model was trained on hundreds of thousands of local simulations – more than one million in total, spanning 13,600 forest areas across Europe. Together, they form the most comprehensive forest simulation ever conducted on the continent.

"The overall picture is clear: natural disturbances in forests are expected to increase almost everywhere," explains Marco Mina, one of the study's authors. "Under the most severe IPCC climate scenario, the area affected by fires, storms, and pest outbreaks could more than double compared to recent decades (+122 percent). Of greatest concern is the rise in wildfires, especially in the Mediterranean region."

At the same time, the study shows that hotspots of forest disturbance are emerging across Europe – including the Alps, southern Finland, and Germany – where wildfire risk is also projected to rise. Additionally, the researchers were able to quantify how disturbances reinforce one another over time. "Storm-damaged forests, for example, become more vulnerable to insect outbreaks in the following years. We witnessed this in the Alps after Storm Vaia, when bark beetle infestations spread rapidly through weakened spruce forests," Mina explains. From a forest management perspective, the findings point to the need for more diverse and structurally complex forests. "Mixed forests are generally more resilient than monocultures," says Mina. "A forest made up almost entirely of spruce – as is common in many Alpine areas – is far more vulnerable to storms and pest infestations than a forest with greater species diversity."

To address these challenges, Eurac Research recently launched the ALPFOR-CSF project together with the Forest Service Department. The initiative includes experimental logging in selected areas of the Dolomites aimed at diversifying spruce-dominated forest stands and strengthening their long-term resilience.



A high-tech orchard exploring the potential of combining agriculture with solar power.

At a height of nearly five meters, solar panels follow the sun's path while apple trees grow beneath them. A sophisticated monitoring system also tracks virtually every aspect of the site – from energy production and sunlight to microclimate conditions, soil moisture, flowering, and the trees' water needs.

The agrivoltaic system was inaugurated in May 2025 in Auer/Ora, south of Bolzano (pictured above). Above all, it is designed to generate data – and with it, answers to key questions surrounding this emerging technology. How does partial shading affect crop yields? Can the panels reduce sun damage and lower water consumption? And under what conditions can solar energy production and agriculture truly coexist?

Funded through the EU Symbiosyst project, the high-tech orchard is one of several pilot sites exploring how agrivoltaic systems can become economically viable without compromising agricultural productivity. The project brings together 16 partners under the coordination of Eurac Research, including the Laimburg Research Centre in South Tyrol.

How can we prepare for the unexpected?

Prevention and forecasting

- 18 Mountain technology: how it protects – and deceives
- 21 Mountain Clinic
- 22 Food, energy, and water
- 22 Beyond snow
- 23 Bat by bat
- 24 Making historic buildings energy efficient
- 25 Rethinking South Tyrol's food system
- 26 Why climate protection is falling short
- 28 Virtual rescue training for real emergencies
- 30 Protecting cultural heritage – effectively and affordably
- 31 Ancient DNA reveals the story of prehistoric Alpine communities

More technology
doesn't automatically
mean more safety.



Mountain technology: how it protects – and deceives

Working or practicing sports in the mountains requires constant caution. Extreme environmental conditions can amplify natural hazards, while altitude itself may trigger unpredictable reactions in the human body.

Two studies presented this year highlight the double-edged role of technology in high-altitude environments: it can help reduce risk – but it can also create a false sense of safety.

In October, the results of a clinical trial conducted in the Dolomites were published in JAMA, one of the world's leading medical journals. An international research team tested a wearable safety device designed to improve survival chances in the event of an avalanche: a backpack equipped with the Safeback SBX system, which draws air from the surrounding snow and channels it to the face area of the person caught in the avalanche.

The study itself posed significant challenges. Participants were completely buried under snow during the experiments, and researchers feared that more than two-thirds might require emergency excavation. The volunteers – all experienced ski mountaineers, about half of them women – ranged in age from 23 to 54. Despite the demanding conditions, the trials proceeded safely under strict monitoring protocols.

After extensive analysis, the results showed that in a real avalanche scenario the device could extend survival time by more than fivefold, giving rescuers and companions significantly longer to intervene.

"No technology can replace prevention, which remains the most important tool for saving lives in the mountains," emphasized Frederik Eisendle and Giacomo Strapazzon, lead authors of the study. That call for caution is echoed by emergency physician and researcher Hermann Brugger, who helped draft the latest international guidelines for high-altitude rescue. "In the past, it was clear: above altitudes of 5,500 meters, mountaineers had to rely entirely on themselves," Brugger explains. "Today, modern technology creates the illusion that rescue is always possible. Expeditions offer all-inclusive packages – hypoxia training at home, comfortable base camps, satellite communication. Many people believe this makes them safe. But above 5,500 meters, there are still no guarantees."

Over several years, Brugger and colleagues from Europe, North and South America, and Nepal reviewed the scientific literature, analyzed existing studies, and integrated findings from their own research. Three studies conducted at Eurac Research's terraXcube – under simulated high-altitude conditions – provided key evidence for the guidelines. For unresolved questions where scientific evidence was lacking, the researchers formulated so-called PICO questions, which were then evaluated by an international committee based on available expertise and incorporated as expert opinion. The final guidelines were then approved by the ICAR General Assembly.

HEMS study participants underwent cognitive performance monitoring during very high-altitude helicopter rescue operation simulations. The results showed that reaction times slowed significantly – often without participants noticing – while other tested cognitive functions remained within normal limits.





Avalanche simulation in the Dolomites at an altitude of around 2,000 meters. After preparing in the sheltered tent (above), 24 volunteers were buried face down beneath more than 50 centimeters of snow (previous page). The aim of the experiment was to determine whether the Safeback wearable device could extend survival time under the snow. The research team also analyzed snow properties (below), as factors such as density and structure influence how much oxygen can pass through the snowpack.



Mountain Clinic

Building on more than fifteen years of research in mountain medicine, a multidisciplinary team at Eurac Research has launched a new outpatient clinic open to both local residents and visitors, bringing its scientific expertise directly into clinical practice. Located at NOI Techpark, the clinic is among the few of its kind in Italy and is also accessible through agreements with the public healthcare system.

Present at the inauguration were (from left): Roland Psenner (President of Eurac Research), Katharina Plenk (Mountain Clinic Coordinator), Hubert Messner (Provincial Councillor for Healthcare and Prevention), Giacomo Strapazzon (Mountain Clinic Director), Christian Kofler (Director General of the South Tyrolean Health Authority), and Maurizio Lutzenberger (National Instructor for Mountain Rescue and the Italian National Association of Alpine Guides).

Food, energy, and water

An agrivoltaics project developed in collaboration with the FAO Investment Centre and the European Bank for Reconstruction and Development is focusing on regions where climate change is already reshaping agriculture. Two issues are particularly critical in these areas: soil degradation and water scarcity.

According to agrivoltaics expert Luís Fialho, solar panels can help restore soils that have been exhausted by intense heat and over-use. “The panels reduce direct UV radiation, lower temperatures, and decrease stress on both crops and soil,” he explains. “At the same time, they reduce evapotranspiration, meaning plants lose less water and require less irrigation.”

But agrivoltaics can do more than conserve water – it can also help produce it. The electricity generated by solar panels can power desalination systems, creating new freshwater resources for irrigation. This is especially promising in arid and coastal regions, where solar energy is abundant, but freshwater is limited.

Eurac Research’s role is to evaluate system designs, technologies, and monitoring strategies to determine which agrivoltaic solutions are most effective under different environmental conditions. The broader goal is to accelerate the adoption of systems capable of producing food, energy, and water on the same land – an approach that may soon shift from visionary concept to practical reality for farms around the world.

Beyond snow

Last winter, the BeyondSnow project attracted considerable media attention, driven both by the Winter Olympics and by the increasingly visible effects of declining snowfall in mountain regions. Journalists from several European media outlets visited Eurac Research as well as the pilot ski areas involved in the project in Austria, Slovenia, and France.

At the same time, the research team has already submitted proposals for follow-up studies focused on the revitalization of Alpine destinations where climate change is making ski tourism increasingly difficult.

Bat by bat

Bats are keystone species, playing a vital role in maintaining the structure, diversity, and health of ecosystems. Yet despite their ecological importance, they are often overlooked...

Over the past three years, researchers have compiled all available data on the 26 bat species found in South Tyrol for an EU reporting process on species conservation status. At dusk, field teams set out equipped with mist nets and acoustic detectors to monitor bat populations and better understand the behavior of these elusive nocturnal mammals.

The results reveal both encouraging and concerning trends. For the first time since 2000, the lesser horseshoe bat is showing signs of recovery. At the same time, populations of species such as the whiskered bat and the greater horseshoe bat continue to decline: researchers believe that intensive agriculture and the loss of natural feeding habitats may be among the main causes.

The experts emphasize that significant knowledge gaps remain, particularly regarding habitat use and population dynamics, making further research necessary. The report submitted to Brussels, which covers 45 habitats and 91 animal and plant species, is coordinated by Bolzano’s Provincial Office for Nature. Bat monitoring is carried out in collaboration with Eurac Research and the Nature Museum South Tyrol as part of the Species Monitoring project.



Making historic buildings energy efficient

"The European Commission has set a target for at least one percent of the building stock in every member country to undergo renovation. To achieve this goal, we need more standardized solutions – even when working with historic buildings, where the challenges are particularly complex," says Daniel Herrera, architect and expert in energy-efficient retrofitting, describing the FuturHist project he coordinates.

The project brings together 18 partners from nine countries to develop renovation strategies based on recurring historic building types. The goal is to create solutions that can be adapted and replicated across different contexts with only minor modifications. Achieving this requires careful design work as well as detailed analysis of materials and construction systems. At Eurac Research, some of this research takes place in the Hygrothermal Testing Lab, where scientists are studying different internal and external insulation systems using natural materials such as clay, natural lime, and rice husk ash.

Rethinking South Tyrol's food system

It's a classic chicken-and-egg situation: farms would produce more for the regional market if demand were guaranteed, and restaurants would source more local produce if supply were more reliable. The NEST project examined ways to overcome this impasse by strengthening collaboration between farmers, food processors, wholesalers and the hospitality sector.

Following discussions with 80 stakeholders and a series of participatory workshops, the research team developed practical recommendations that are economically viable and cut across sectors. These range from cultivation contracts that provide producers with greater planning security to menu design strategies that encourage guests to choose more plant-based dishes.

One of the main challenges identified is coordination. At the local level, for instance, a dedicated coordinator could connect supply and demand,

assess needs, facilitate contracts, and foster collaboration among stakeholders. At the institutional level, the researchers argue that a central office within the provincial administration would be beneficial, as responsibility for food systems is currently spread across multiple departments.

"A sustainable food system not only contributes to climate and environmental protection, but also represents an opportunity for regional development," emphasizes Thomas Streifeneder geographer and regional development expert.

The project was carried out on behalf of the Province of South Tyrol in collaboration with IDM South Tyrol.



The recommendations



A sustainable food system not only contributes to climate and environmental protection but also represents an opportunity for regional development.

Why climate protection is falling short

... and why we have to keep trying to improve things. A sociologist and a biologist analyze what's holding us back and why, despite everything, there's still room for change.

In conversation with

Jens Beckert, director of the Max Planck Institute for the Study of Societies and Georg Niedrist, biologist, Eurac Research

Mr. Niedrist, what aspect of our evolution might explain why we remain so inert despite our knowledge of climate change?

Georg Niedrist: Humans are evolutionarily designed to solve short-term problems: our brains respond to immediate threats, not to abstract scenarios. One reason for our inaction is the disconnect between cause and effect: We act today without directly feeling the consequences. These effects are diffuse, spread out over decades and across the entire planet. Many shrug and say “Oh, well, we’ll just have to stop skiing,” but what’s really at stake is the loss of the foundations of our lives: habitats, agriculture, water.

Mr. Beckert, in your book on this topic, you say that capitalism is a central part of the problem. Why?

Jens Beckert: In a capitalist economy, companies invest only if they can expect a profit. Growth is the fundamental prerequisite of the system. And growth always entails the consumption of resources. As long as environmental costs are not factored into prices, we are overburdening the planet.

Are economic growth and climate protection fundamentally incompatible?

Beckert: Societies become wealthy by consuming large amounts of energy, and as long as this energy comes from fossil fuels, prosperity automatically equates to high emissions. Therefore, wealth is closely linked to CO₂ emissions. The only way forward is to decouple consumption from emissions by using renewable energy rather than just becoming more efficient.

Niedrist: At the same time, rising CO₂ emissions are closely tied to growing prosperity. Behind them lie deeply human drives: competition, ambition, unrestricted mobility, and the desire for distinction. These same forces have helped humanity thrive – and have also contributed to the crisis we now face.

Mr. Beckert, you say: The problem is not “human,” but historical. What do you mean by that?

Beckert: For centuries, social rules and hierarchies placed limits on the pursuit of status – through dress codes, class boundaries, and restricted access to wealth and privilege. It was only with the rise of the modern economic system and, arguably, democracy – with its promise of prosperity for all – that this drive was fully unleashed. Our economy depends on the constant desire for more. This is not simply a fixed aspect of human nature, but the product of the institutions we have built.

So, do we need new forms of limits?

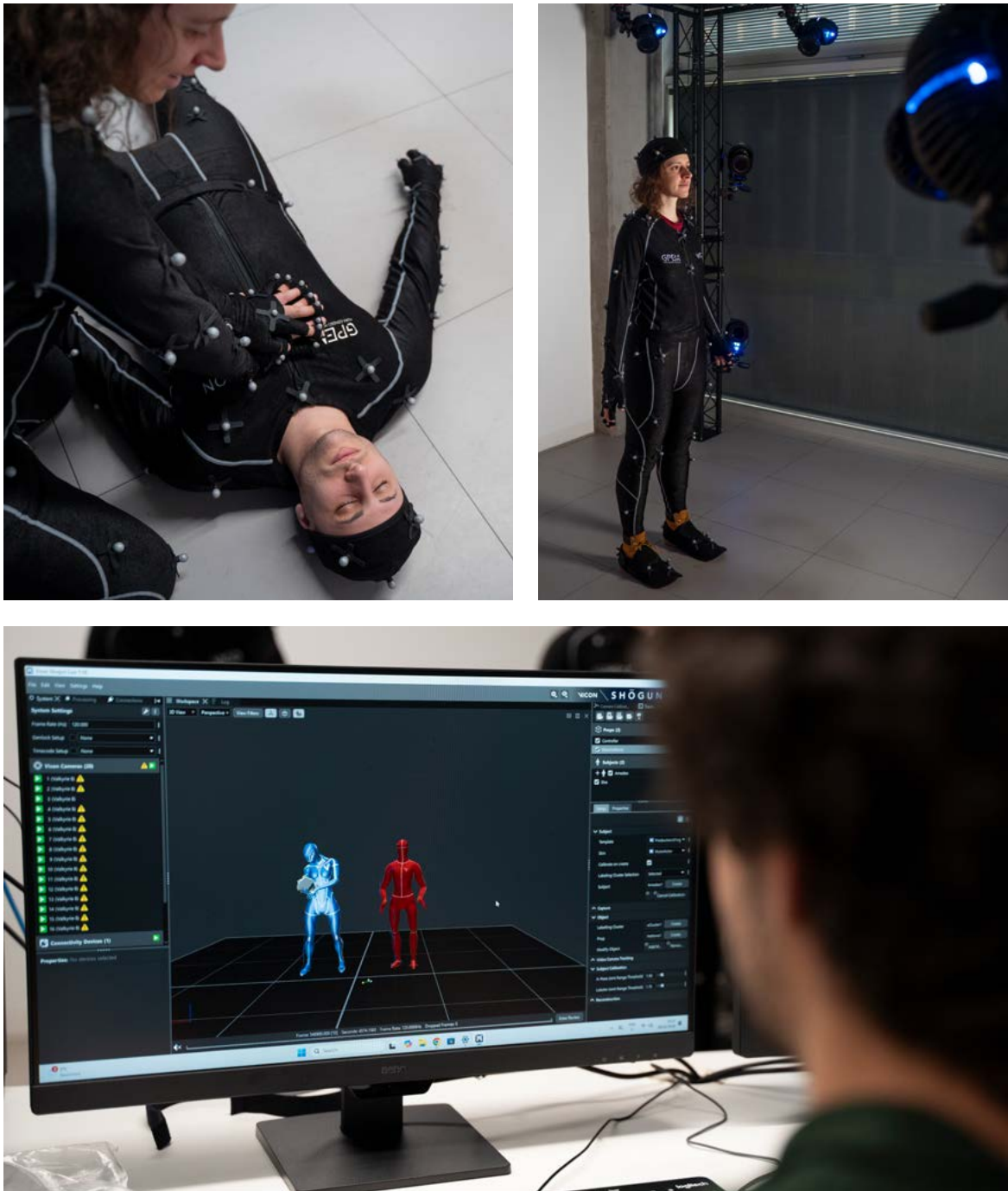
Niedrist: If we wanted to preserve the chance of limiting warming to 1.5 °C, we would need a global emergency brake, similar to the one taken during the COVID-19 pandemic. That is not realistic. But after 80 years of virtually unrestricted freedom, we must recognize that the planet sets the limits. The more effort we put in now, the fewer restrictions future generations will face. If we continue to act without limits, our children and grandchildren will face all the more severe restrictions. We must make this decision as a society now: the laws of nature are not open to negotiation.

“The only way forward is to decouple consumption from emissions.”

Jens Beckert

Thinking about the future

The question of how society and politics are responding to the climate crisis was also at the center of “The Rule of Law Under Pressure? Democracy and Society in the (Climate) Crisis” conference. The event brought together leading voices from social sciences and legal studies for a series of keynote talks followed by a panel discussion. Another perspective on the future came from political scientist, futurist, and NATO Research Director Florence Gaub, who spoke at the tenth edition of the *vigilius sensus* event series. In her lecture, she described the future as a form of superpower – something that can be actively shaped through imagination, strategy, and thoughtful action.



Virtual training for more effective rescue operations

MULTITRAX-MR – MultiSense Training Center for Extreme Conditions with Mixed Reality – is a simulation platform designed to train rescue teams using mixed reality technologies.

The system combines immersive headsets with an optical tracking setup – including the cameras visible in the photo – to place rescuers inside a virtual emergency scenario where rescue operations can be realistically simulated.

Participants wear special black vests fitted with small reflective markers that allow their movements to be tracked in real time. The data is processed by the software, which recreates each operator’s movements through an avatar in the virtual environment.

This enables highly realistic training scenarios in which real-world actions are accurately mirrored in the simulation.



Calibration phase of the optical tracking system in the terraXcube, our extreme climate simulation center.

Protecting cultural heritage, effectively and affordably

An innovative and versatile solution designed to preserve sensitive cultural artifacts – including mummified human remains – from deterioration

In conversation with
Marco Samadelli, conservation expert

What exactly is a Conservation Soft Box and why did you develop it?

Marco Samadelli: The Conservation Soft Box is a flexible display case made of plastic, supported by tubes that create a protective enclosure around the object. The case is airtight, allowing the internal conditions to be carefully controlled. An activated carbon filter absorbs gases that may be released by organic remains, while specially designed silica gel packets keep humidity levels stable and tailored to the specific conservation needs of the object. Once sealed inside a Conservation Soft Box, mummies and other organic artifacts – such as textiles, paper, or wood – can be preserved safely for long periods with only minimal maintenance. The system provides the same level of protection as the most sophisticated and expensive display cases.

Is it difficult to produce?

Samadelli: Assembling the system itself does not take long. However, selecting the right components and fine-tuning the design took years. I worked with several partners throughout the process, including the Eco Research center in Bolzano, which specializes in chemical analysis.

And what about the costs?

Samadelli: With a Conservation Soft Box, we can protect a cultural artifact for just a few hundred euros, whereas a glass display case costs thousands. It's easy to imagine what this could mean for countries that cannot invest much in the preservation of cultural artifacts but that possess a significant cultural heritage. We presented the box at the 11th World Congress on Mummy Research in Cuzco, Peru, and are now planning workshops for conservation specialists from around the world to show them how they can build a Conservation Soft Box themselves.

A paleogenetic study sheds new light on prehistoric communities in the eastern Italian Alps.

Using skeletal remains from 17 archaeological sites in Trentino and South Tyrol, a research team led by population geneticist Valentina Coia analyzed the DNA of 47 individuals who lived between about 8,000 and 3,500 years ago. The study reveals how over time the genetic structure of Alpine populations changed and how migration across Western Eurasia influenced the genomic structure of prehistoric alpine groups. It also places the genetic history of Ötzi, the Iceman, into a broader context.

The research was carried out in collaboration with the universities of Trento and Uppsala and was published in the *Nature Communications* journal.

In 2025, the study achieved the highest Altmetric Attention Score of any Eurac Research publication, with 232 points. This places the “Genomic diversity and structure of prehistoric alpine individuals from the Tyrolean Iceman’s territory,” article among the top five percent of all research articles tracked by Altmetric, which measures how often scientific studies are mentioned and shared online. The paper was viewed 20,000 times on the journal’s website.



Nature Communications 16,
Article number: 6431 (2025)





Including children in medical research

“When designing the study, we decided to include children because there is still very little research focused on pediatric patients. In medicine, children are often treated as small adults, even though they have distinct physiological characteristics that must be taken into account,” explains Physician and Researcher Giulia Roveri. For the first time, Eurac Research conducted a study involving 53 volunteer participants that included not only adults of normal weight and obese individuals, but also children between the ages of six and twelve. The research focused on preoxygenation techniques – procedures used before anesthesia to fill the lungs with oxygen and create a reserve that helps support patients during the initial phases of anesthesia.

Can we afford to give up on diversity?

Diversity and connections

- 34 Danger Zones
- 35 Diversity in sport
- 36 A global program for minority rights advocates
- 36 Giving heritage languages a voice
- 37 How female is local politics – really?
- 38 When a translation feels effortless, double-check it
- 39 Giving heritage languages a voice
- 39 SMS 2.0
- 40 Why social cohesion starts with housing
- 41 Scarlet fever was in South America before Europeans arrived

Danger Zones

In 1929, English Historian John S. Stephens published “Danger Zones of Europe”, an essay examining the fragile situation of minorities in interwar Europe. Nearly a century later, two historians have rediscovered the work and published it in German for the first time.

In conversation with

Hannes Obermair and Josef Prackwieser, historians at Eurac Research

Stephens traveled through minority regions across Europe in the 1920s as a special rapporteur for the League of Nations, and what he observed deeply concerned him...

Hannes Obermair: Yes. He witnessed growing pressure on minorities, especially in authoritarian states such as Fascist Italy, and recognized the danger of renewed conflict. Authoritarian systems tend to suppress linguistic minorities, while at the same time instrumentalizing their own minorities abroad to support expansionist policies. Minority groups themselves can also embrace this role – as happened with the Sudeten Germans and with parts of the German-speaking population in South Tyrol that supported the call to return “home to the Reich.” Stephens advocated for minority protection, but not as a way of preserving minorities in isolation. Instead, he saw minorities as dynamic actors capable of serving as bridges between states. This active, forward-looking perspective is one reason why his essay still feels remarkably relevant today.

Josef Prackwieser: In fact, he addresses many questions that continue to shape research today. It begins with a fundamental issue: what actually defines a minority? He also describes the process of “minoritization,” a concept that is widely studied today – how groups become minorities, how discrimination emerges, and how minority rights are negotiated. At a time when nationalism was the dominant paradigm, Stephens proposed a very different vision: one in which borders lose importance and cross-border minorities help create connections rather than divisions.

Are there other areas in which his text remains relevant today?

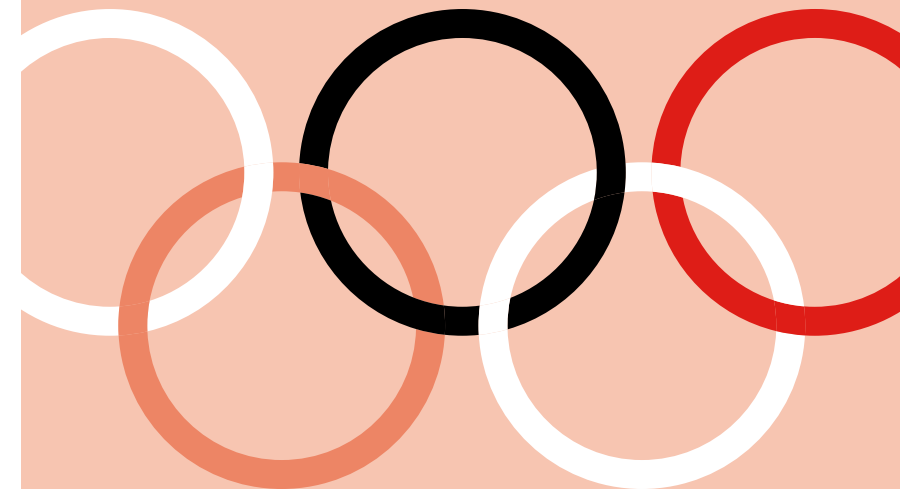
Prackwieser: The nationalism that Stephens identified as the root evil of his time is on the rise again. He describes the dangerous dynamic between nation-states and their minorities: the minority dreams of returning to the bosom of the mother country, while the nation-state feels threatened by this attitude and tightens the screws even further by denying minority and autonomy rights. Thus, both sides escalate the conflict. This dynamic can be observed today with regard to Russian minorities in the Baltic States and Ukraine, for example. The question then arises as to what extent these minorities are being used as a pretext for geopolitical measures. *Obermair:* He also warns minorities against allowing themselves to be drawn into nationalist agendas – a message that remains strikingly relevant today, not least in light of the situation in Donbas. Stephens criticizes what might be described as a “fortress mentality,” in which minorities close themselves off and present themselves as internally homogeneous. In doing so, they often overlook or suppress the diversity that exists within their own communities. I actually think South Tyrol offers a telling example of this dynamic.

Diversity in sport

How is diversity perceived in South Tyrolean sport? What challenges does it bring, and how are they being addressed? These are the questions explored by the DiversS research project.

Interviews conducted with representatives of sports federations, clubs, public administration, and other experts have already revealed several important findings. One is that diversity is generally acknowledged but rarely addressed in a systematic way. Sports clubs, for example, are aware that sport can play a key role in the inclusion of people with migrant backgrounds. However, how much this potential is actually realized often depends on the personal commitment of individual coaches or volunteers, since broader strategies are still lacking. Similar guidelines are also missing at provincial level.

In some sports, high costs remain a barrier to equal participation. Football is the most accessible sport – with clubs in nearly every village – but mainly for boys, as girls’ teams still exist in only a limited number of clubs. Women also remain underrepresented in leadership and coaching roles, while language and cultural differences continue to be sensitive issues despite formal commitments to neutrality. Because diversity in sport has many dimensions – including gender, socioeconomic background, migration background, age, language, and culture – it is important to look at how these factors overlap in order to identify multiple forms of disadvantage, explains political scientist Sophia Schönthaler. The research project supports the Autonomous Province of Bolzano/Bozen – South Tyrol to take a stronger stand against discrimination and exclusion.





A global program for minority rights advocates

In November 2025, 20 representatives of national, ethnic, religious, and linguistic minorities from around the world gathered in Bolzano to learn more about South Tyrol's autonomy model. A central element of the initiative was the exchange with experts at Eurac Research. It was the first time Eurac Research had been invited to host the UN Minorities Fellowship Programme – the United Nations' most comprehensive training initiative in the field of minority rights, organized by the Office of the High Commissioner for Human Rights.

Giving heritage languages a voice

Albanian, Urdu, Arabic – South Tyrolean schools offer instruction in these heritage languages but how is this teaching integrated into the school system? How is it perceived by teachers and families? And how do students themselves experience it? These are the questions being explored by linguists and social scientists in the Voices project. Their research aims to address other, broader issues as well: how does recognizing and strengthening languages brought to schools through migration influence social cohesion? And how can education systems become more inclusive? The project also involves the Universities of Teacher Education in Bern and Lucerne, which are examining heritage language instruction in their respective cantons.

How female is local politics?

Women in South Tyrol's local councils: facts, figures, and progress

In conversation with
Economist Magdalena Nock

There are currently 592 women serving on municipal councils in South Tyrol, representing 30.7 percent of all council members. You analyzed the data going back to 2000 – what did the situation look like then?

Magdalena Nock: At that time, women made up just 17 percent of municipal council members. Three municipalities did not have a single woman on the council – and it was not until 2010 that every municipal council included at least one female representative. The first local council with an almost equal number of women and men was elected in 2005, in Kurtinig an der Weinstraße/Cortina sulla Strada del Vino. The average share of female candidates has also steadily increased over time: from 20.3 percent in 2000 to 36.1 percent in the 2025 elections. Over the same period, the number of female mayors rose from just two to 17.

Women are still elected less often than men.

Nock: Yes. In every municipal election since 2000, women have had a lower electoral success rate than men – by between 10 and 15 percent. One reason is the political offer itself: more than 60 percent of candidates are men. In addition, a representative survey conducted in 2020 by Eurac Research together with the social research institute Apollis showed that fewer than one in five female voters vote exclusively or predominantly for women.

Which municipalities have particularly high shares of women on local councils?

Nock: Over the past 25 years, Kurtinig an der Weinstraße/Cortina sulla Strada del Vino, Deutschnofen/Nova Ponente, Sterzing/Vipiteno, Tisens/Tesimo, and Eppan an der Weinstraße/Appiano sulla Strada del Vino have had women make up more than one-third of their municipal councils on average.

Deutschnofen/Nova Ponente currently has the highest share, with women holding 50 percent of council seats. An interesting case is also Tschermes/Cermes, where more women than men were elected to the municipal council in 2020.

How does South Tyrol compare with neighboring regions?

Nock: In Tyrol, the 2022 elections resulted in women holding just under 24 percent of municipal council seats, and only 7.2 percent of municipalities have a female mayor. In South Tyrol, the figure is 14.7 percent. In Trentino women hold 33.3 percent of seats on municipal councils there, and 15.2 percent of municipalities have a female mayor.



The Women in Local Politics dashboard was developed by Magdalena Nock and Peter Decarli



25 years of municipal elections in South Tyrol

Anyone interested in taking a closer look at how municipal politics in South Tyrol has evolved can explore the South Tyrol Municipal Elections dashboard. The platform presents key data from the past 25 years in a clear and interactive timeline, making long-term trends easy to understand. Among its findings: women are more strongly represented in local politics today than they were in the past, while political participation – both among voters and candidates – has steadily declined.



Explore the South Tyrol Municipal Elections dashboard



When a translation feels effortless, double-check it

It doesn't matter whether you use ChatGPT or another AI tool, or opt for a hasty, mechanical translation: every solution that seems easy and inexpensive carries the risk of misunderstandings, standardization, and a loss of linguistic diversity.

Large AI models reproduce the power structures embedded in the texts used to train them.

Marlies Alber and Barbara Heinisch tested ChatGPT on legal and administrative texts in South Tyrol, where both German and Italian are official languages. One of the challenges for the provincial administration is that Italian law must be translated into German – but not simply into the legal language used in Germany or Austria. The reference system remains Italian law, expressed in the standard variety of German used in South Tyrol. And it's precisely here where difficulties arise.

For example, when translating the Italian term *contratto collettivo* (collective bargaining agreement), ChatGPT often suggests *Tarifvertrag*, the term commonly used in Germany, instead of *Kollektivvertrag*, which is the correct term in South Tyrol.

In an effort to adapt ChatGPT to South Tyrolean legal and administrative language, Alber tested three different prompting strategies. In the first experiment, ChatGPT was simply instructed to translate into the “standard variety of South Tyrolean German” – meaning not dialect, but the formal written language used in public administration. Despite this instruction, the AI often produced translations closer to German usage in Germany.

In the second approach, the researchers provided a glossary of key terms, such as *giunta provinciale* = *Landesregierung* (provincial council). This improved the terminology, but introduced new issues, including grammatical mistakes. “Sometimes it seems as though ChatGPT first translates the text and then blindly inserts glossary terms without adapting the sentence structure,” Alber explains. For the third experiment, the prompt included a sample text written in South Tyrolean German, in the hope that ChatGPT would imitate its style and wording. The effect, however, was surprisingly limited. “The system picked up very little from the example text,” says Alber.

Her conclusion: carefully designed prompts can help, but only to a certain extent. The more specific the linguistic requirements, the more preparation is needed. “Producing truly good results still requires linguistic expertise, time – and ultimately a thorough human eye.” Easy translations should also be treated with caution when it

comes to inclusive language. Large AI models reproduce the power structures embedded in the texts used to train them, meaning their translations often remain insufficiently inclusive. More broadly, no machine translation system – and no automatic solution – works perfectly. This was emphasized by linguists Arianna Bienati and Elena Chiocchetti, who recently collaborated with South Tyrol's Equal Opportunities Council on new guidelines for inclusive job advertisements. As part of their work, they analyzed numerous examples published by companies and online platforms in the region.

“I immediately raise an eyebrow when I see a single masculine or feminine job title followed by ‘(m/f/d),’” says Chiocchetti. “The German-language abbreviation stands for male, female, and *divers* (non-binary), and is meant to signal that a position is open to all genders. But often it feels like a fig leaf or an automatic addition rather than the result of genuine reflection. Sometimes there is already a gender-inclusive term, such as *Reinigungskraft* (cleaning staff member), and the label is still added automatically.”

Their recommendation is to assess each case carefully, avoid shortcuts, and approach inclusive language with creativity. According to Bienati, South Tyrol stands out in this respect: “Italian-language job ads in South Tyrol show far more experimentation than in the rest of Italy. Because job postings often have to work across several languages, people draw creatively on all available linguistic resources. Terms like *impiegato*a* are clearly influenced by German-language approaches to inclusive writing whereby the asterisk indicates gender neutrality.”

SMS 2.0

Eight to ten languages in a single classroom is no longer uncommon in some schools in South Tyrol. Recognizing and valuing the potential of this linguistic diversity is an important task for schools, and Eurac Research has been supporting them in this endeavor for years by providing teaching materials and resources. The collection, developed as part of the “One school, many languages / A lezione con più lingue / A scora cun de plü lingac / Sprachenvielfalt macht Schule – 2.0” (SMS 2.0) project, comprises 300 pages, covers over 90 languages, and is designed for students aged 8 to 17. The playful and creative approach, which makes it easy for teachers to integrate the activities into their lessons, is not just intended to help improve language skills; it's also to foster respect and openness toward diversity for a more inclusive school environment.



Why social cohesion starts with housing

Housing has become a major challenge for many people in South Tyrol and is at the center of intense political and social debate. A recent survey conducted by Eurac Research and ASTAT – the Provincial Statistics Institute of South Tyrol – provides representative data on the issue as part of their long-standing collaboration.

The results show that 80 percent of the 954 respondents consider high real estate prices and rents to be the most urgent issue related to housing and construction.

Rising housing pressure is driven not only by rent and mortgage payments, but also by increasing everyday costs such as electricity, heating, and other housing-related expenses. “We therefore asked participants how easy or difficult it was for their household to manage overall housing costs in 2023,” explains Eurac Research Sociologist Christoph Kircher.

More than one-third of respondents said it was fairly or very difficult to cover their total housing costs, while only one in five reported no difficulties at all. Significant differences emerged depending on place of residence and housing situation. In Bolzano, for example, housing pressure is perceived much more strongly than the provincial average (45 percent versus 34 percent). Renters are also considerably more affected than homeowners: 52 percent of tenants reported difficulties meeting housing costs, compared with 32 percent of people living in their own homes.

“The rising cost of housing is not only a personal problem for those directly affected,” emphasizes Socioeconomic Researcher Felix Windegger. “Our analysis shows that housing is closely linked to broader social, political, and environmental dynamics.”

To explore these connections further, the researchers compared two groups: people who found housing costs difficult to manage and those who reported little or no difficulty. The results show that strong housing cost pressure is associated with lower life satisfaction and declining trust in politics in South Tyrol.

“Precarious living conditions – including insecure housing situations – can undermine trust in political institutions and fuel resentment toward politics, especially when people feel abandoned,” says Windegger.

Respondents struggling with housing costs were more likely to agree with statements such as “political parties are only interested in votes” (70 percent versus 56 percent) and “I have no influence on politics” (60 percent versus 48 percent). They were also more likely to oppose environmental and climate regulations in the building sector if these involved additional financial burdens.

The study further shows that people under economic pressure perceive lower levels of social cohesion in their communities. They were less likely to agree that people in their neighborhood get along well (63 percent versus 74 percent), help one another (56 percent versus 65 percent), or can generally be trusted (54 percent versus 70 percent). “Subjectively feeling overwhelmed by housing costs is an indicator of a person’s overall life situation and of the opportunities they have – or are denied,” Kircher concludes. “High housing costs directly affect people’s basic living conditions and have consequences not only for individuals, but for society as a whole. Housing policy is therefore a key instrument for strengthening social cohesion.”



The survey was based on a representative probability sample, making it possible to draw conclusions about the population as a whole. Detailed results from the Housing Cost Pressure Between Ecology, Politics, and Society study



Scarlet fever was in South America before Europeans arrived

A research team led by Eurac Research has discovered traces of the bacterium *Streptococcus pyogenes* – responsible for illnesses such as strep throat and scarlet fever – in a pre-Columbian mummy from Bolivia. For the first time, the researchers were also able to reconstruct the centuries-old genome of this pathogen. The discovery was made while analyzing a tooth from a naturally mummified skull preserved at the National Museum of Archaeology in La Paz. Using advanced DNA reconstruction techniques, the team recovered an almost complete ancient genome of the bacterium. The results show that *Streptococcus pyogenes* was already circulating among Indigenous populations in South America before the arrival of Europeans. The young man to whom the tooth belonged lived between 1283 and 1383. Today, the bacterium is found worldwide and can cause illnesses ranging from mild throat infections to life-threatening toxic shock syndrome. Yet despite its major medical importance – scarlet fever was once one of the leading causes of death among children – its evolutionary history remains poorly understood. The study, published in Nature Communications, was made possible through a collaboration between Eurac Research and the Bolivian Ministry of Culture.



The gift of curiosity

On November 15, 2025, Maresch/Mareccio castle in Bolzano was filled with curiosity as 3,800 visitors – including many children and teenagers – explored the world of science during the “Le mille e una scienza” festival. The event gave researchers the opportunity to share their everyday work with families and visitors of all ages through hands-on activities, demonstrations, and conversations. Eurac Research was represented by five research institutes and was supported by 18 enthusiastic students from local high school Liceo Torricelli.

What do the numbers behind the research reveal?

Organization and integration

- 44 Facts and figures
- 46 Investing in a stronger workforce
- 48 Federalism and autonomy: expertise in action worldwide
- 48 Joint healthcare research agreement with the Italian Università Cattolica
- 49 Partners
- 50 Higher budgets for research projects
- 52 Scientific publications: small percentages, substantial impact
- 54 Open Science
- 56 Adige Water Fair
- 56 Climate risks and adaptation
- 57 First sustainability review
- 59 Scientific conferences
- 59 MOC is born
- 60 What does the energy transition cost?
- 61 Finances
- 62 Organizational chart
- 63 Governance bodies

Facts and figures



90.9%
of us have a
smart working
contract



28.5%
are part-time



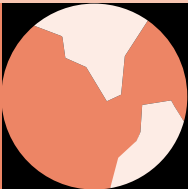
is our
average
age



9 children
joined the
families of our
employees over
the last year



Nationality



13.6%
are from
the EU

8.2%
are from
outside the EU

Workspaces



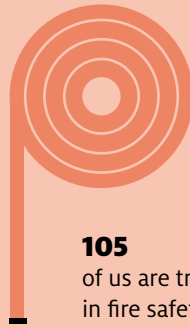
27
laboratories and
facilities form the
spaces where we work

38.8%
of us have a PhD

78.2%
are from Italy



107
of us are trained
in first aid



105
of us are trained
in fire safety



46
of us are trained in
the use of a defibrillator



~430
scientific publications since
our last report

~280
were articles in peer reviewed
journals



100
ongoing EU-projects



in more than 50%
we are the lead partner

Getting to and from work



50% commute on foot or by bike
23% commute with public transport
27% with private vehicles
(26% by car, 1% scooter or motorbike)

Every week we travel

3,451 km on foot
11,676 km by bike



499k
the number of unique visitors (devices)
our website has had over the past year
45 websites have been built and are
additionally managed by us to date

193 blogposts were written since last
year's report



1,800
minutes of video footage
were shot since our last report

3,180
photographs were selected
and archived by us since our
last report

Investing in a stronger workforce

Over the past five years, Eurac Research’s workforce has grown by 25 percent, and the number of permanent positions has also steadily increased. Compared with five years ago, the share of employees on permanent contracts has risen by 5 percent. In 2025 alone, Eurac Research welcomed 105 new employees. More than one-third of them came from abroad – from a total of 22 different countries.

5

staff members obtained the National Scientific Qualification required to apply for university positions as full or associate professors.

Andrea Menapace
Hydraulics, hydrology, hydraulic and maritime engineering
National scientific qualification for full professorship

Roberto Mendicino
Electronics
National scientific qualification for associate professorship

Rocco Pace
Botany, forest systems science and technology
National scientific qualification for associate professorship

Silvia Poponessi
Systematic botany
National scientific qualification for associate professorship

Stefano Terzi
Hydraulics, hydrology, hydraulic and maritime engineering
National scientific qualification for associate professorship

Professional development and lifelong learning

In 2025, staff training focused on five main areas: leadership and project management, research methods and scientific skills, communication, health and wellbeing, and workplace safety. Over the course of the year, Eurac Research organized 71 training courses, with a total of 1,118 registrations, as many employees took part in multiple sessions. All staff members are also required to complete training on data protection and workplace safety when they join the institution, followed by regular refresher courses. In addition, Eurac Research’s Career Center offers individual counseling and support modules to help employees further develop their careers – including staff members preparing for opportunities beyond Eurac Research.

Source: internal databases
Data as of 31.12.2025 (exported 31.01.2026).

754

collaborators

632

of us are employed by Eurac Research

- 38.8% have a PhD
- 3.2% are carrying out their PhD studies
- 70.4% are permanent employees
- 71.5% are full-time
- 64.3% are researchers / 29.4% work in administrative and research support departments / 6.3% are technicians*

* At the time of reporting, nearly two-thirds of Eurac Research’s employees are researchers and, together with technical staff, they make up around 70 percent of our workforce. The remaining employees support research activities across more than a dozen departments – from managing visas and organizing training programs to communicating scientific results and promoting public engagement with research.

34

of our contracts were continuous and coordinated collaborations (CoCoCo)

13

visiting scientists collaborated with us last year

5

of our staff had distinct contract types

70

of us were paid with external financing

43

had scholarships (external PhD students)

27

had internships

Federalism and autonomy:
expertise in action worldwide

When the Republic of Moldova adopted a new strategy for multilingual education in September 2025, it also marked an important achievement for Eurac Research’s federalism and autonomy experts. As scientific partners of the Finnish Crisis Management Initiative (CMI), Eurac Research experts have been supporting Moldovan institutions for many years in efforts related to decentralization, autonomy, and language rights. Collaboration with the Council of Europe was also particularly intensive over the past year. Eurac Research experts provided advice on Ukrainian and Armenian laws on national minorities, Armenia’s new law on local self-government, and a legal assessment concerning Kosovo that evaluated the implementation of the European Charter of Local Self-Government – an important framework for minority protection and decentralization. Researchers also advised the Yemeni government through the Italian Network for International Mediation (RIMI), collaborated with the European Centre for Kurdish Studies, and, as part of the Federalism Leadership Program, trained Burmese exiles in northern Thailand on topics related to federalism, autonomy, and democratic processes.

At the same time, numerous international delegations visited Eurac Research over the past year to learn more about South Tyrol’s autonomy model. Visitors came from Romania, Austria, Switzerland, South Korea, China, Germany, Lebanon, and Ukraine.

Joint healthcare research
agreement with the Italian
Università Cattolica

Eurac Research is among the signatories of a further memorandum of understanding aimed at strengthening research, prevention, and education in the healthcare sector. The agreement was signed last November by the Autonomous Province of Bozen/Bolzano, Università Cattolica del Sacro Cuore, and six other local partners.

Partners

1,500+

We have over 1,500 partners across more than 60 countries worldwide. Most are international partners, with collaborations primarily centered on research projects. The network also includes commissioned projects and institutional contracts.

1,400+
Europe

39.2%
national partners

56.7%
European partners

4.1%
non-European partners

~20
Asia

~30
the Americas

2
Oceania

5
Africa

Higher project budgets

Over the past 15 years, we have worked on more than 335 projects funded by the European Union. By the end of 2025, 100 projects were underway, including 23 new ones. Compared with the previous year, the average project budget increased significantly, reaching 480,496 euros. This growth is linked to the number of new Horizon and ERDF (European Regional Development Fund) projects, which also support infrastructure investments.

+66%

is how much more average funding per project we are getting this year compared to last

56.5%

of our new projects feature us as lead partner

38.5%

of our new lead parter projects have women as the principal investigator



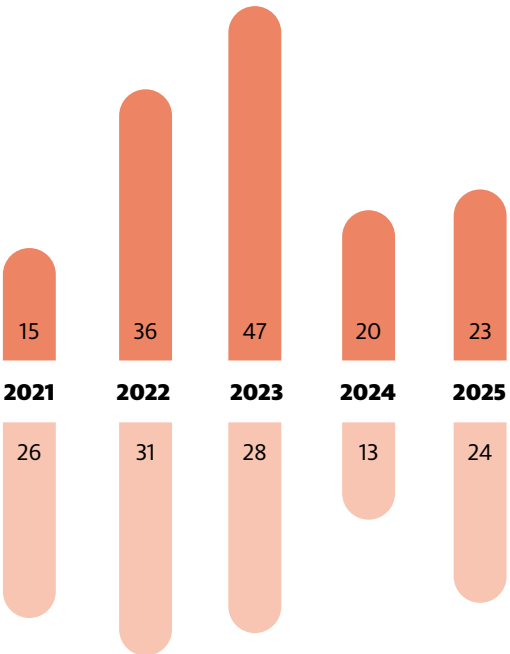
> 10

We are being funded by more than ten EU funding programs. Here they are:

Horizon Europe (34), Horizon2020 (4), European Territorial Cooperation [Interreg Italy-Austria (8) and Italy-Switzerland (4), Alpine Space (7), Central Europe (3)], ERDF (21), Life+ (16), Erasmus+ (1), COST Action (1), Digital Innovation Hub (1)

Projects initiated and completed in the past five year

Initiated

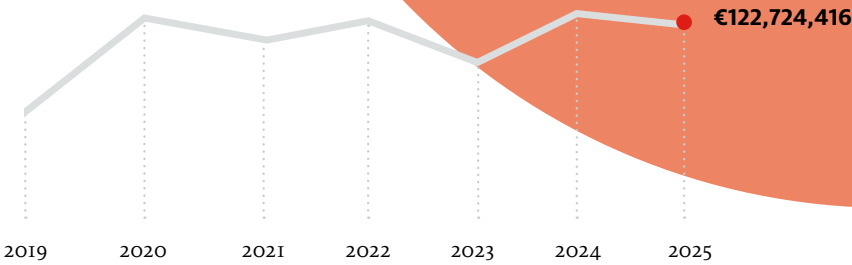


Completed

Over 100 million

For the sixth consecutive year, our cumulative budget is in excess of 100 million euros.

This is the total amount we administered in 2025 for all the ongoing EU projects that we coordinate: this budget has remained in part in Eurac Research (31.6 percent this year) and also been redistributed to our project partners. From the EU projects launched in 2025 Eurac Research received funds of about 11 million euros – almost double the amount compared to last year.



OUR HIGHEST-FUNDED PROJECTS OF THE YEAR

Three projects launched in 2025 in which we are the lead partner

MULTITRAX-MR is a simulation program for mountain rescue teams. See page 28. (€2,095,878, ERDF, Christian Steurer)

CELLMED is expanding laboratory capacity for the development of innovative human cell models, supporting applied biomedical research in South Tyrol. The project focuses on neuronal cell models, including organoids and microphysiological systems, currently among the most advanced tools for developing precision medicine approaches and personalized therapies. (€1,673,647, ERDF, Irene Pichler)

INTEGRATES is developing intelligent digital tools that transform the way buildings are designed, constructed, and managed. The project supports and evaluates sustainable renovation and transformation processes while improving energy efficiency and environmental performance. (€997,296, Horizon Europe, Christian Pozza)

Source: internal databases
Data refers to 01.01-31.12.2025 (exported 31.01.2026)

58

project proposals for funding programs run by the Autonomous Province of Bozen/Bolzano were submitted last year

18 projects were approved, while five are still in the evaluation phase.

Small percentages, substantial impact

In 2025, four of our researchers ranked among the World’s Top 2% Scientists – the two percent of researchers with the greatest global impact across scientific disciplines. The prestigious ranking, compiled by Stanford University in collaboration with Elsevier and based on data from Scopus, considers factors such as the number of published articles, authorship position, and citation count. It covers 22 broad scientific fields and 174 specializations.

Physicist Claudia Notarnicola was included in the Geological and Geomatics Engineering category both for the reference year – for the third consecutive time – and for her overall career achievements.

Also featured in the 2025 ranking were Bioinformatician Christian Fuchsberger in the Developmental Biology category, Clinical Neurologist Peter Pramstaller in the Neurology & Neurosurgery category and Emergency Physician Hermann Brugger in the Emergency & Critical Care Medicine category.

In 2025, Biostatistician Fabiola Del Greco M. was included in Clarivate’s 1% Highly Cited Researchers List – recognizing researchers whose publications rank among the top one percent most cited worldwide. Del Greco M. specializes in Mendelian randomization, an epidemiological approach that uses genetic variants to establish causal relationships between biomarkers and diseases. Her methodological work – including openly accessible programing code – is widely used across the field.

Special recognition for biodiversity publications

Roberta Bottarin, biologist and vice director of Eurac Research, is among the co-authors of the “BioTIME 2.0: Expanding and Improving a Database of Biodiversity Time Series” data paper. The publication presents an updated version of the BioTIME database, which collects time series data on species abundance within ecological communities. The new release doubles the number of studies included compared with the previous version and improves both taxonomic accuracy and metadata quality. The paper stands out for its strong impact, with ten citations and 262 online mentions.

Matteo Anderle received several distinctions for his work on biodiversity, including the Stefan M. Gergely Prize 2025 for his doctoral thesis and the Most Cited Paper Award from the Ecological Society of Germany, Austria, and Switzerland for the “Habitat heterogeneity promotes bird diversity in agricultural landscapes: Insights from remote sensing” data article. He was also recognized for his peer-review work with the ECR Reviewer Prize from the Journal of Applied Ecology. Finally, the Austrian Entomological Society honored Jan Martini for his article “Rock glacier springs: cool habitats for species on the edge,” published in the Biodiversity and Conservation journal.



The Biotime 2.0, Expanding and Improving a Database of Biodiversity Time Series data paper:



65.6% of around 430 scientific publications – including books, conference proceedings contributions, and reports – were peer-reviewed articles.



first authorship

> 1/4

38 conference proceedings articles

data papers

15

Over 12,000
Eurac Research records have been included in the BIA digital archive of the Bolzano/Bozen Institutional Archive to date.

15

books



This is how a field research protocol comes to life – through expertise, hard work, and determination. Carlo Marin, group leader of the Mountain Cryosphere research group, together with his colleagues, developed a protocol for using a calorimeter to measure the amount of liquid water in snow and improve predictions of peak snowmelt. Much of the testing was carried out in Val Senales/Schnalstal as part of the Snowtinel project, and the protocol was published in open-source form.



The scientific paper published in Cryosphere



Open Science in 2025

- 88.4%**
of the articles we published in 2025 were Open Access (OA) articles.
- 75.7%**
of them were Gold Open Access articles.
- 49**
articles were uploaded to preprint platforms over the course of last year.
- 5**
articles were published open peer review last year. This means that the entire review process is transparent.

NEW LANGUAGE FOR QUERYING MASS SPECTROMETRY DATA

Last year, bioinformatician Johannes Rainer published an article in Nature Methods presenting and sharing the code for a new method to analyze mass spectrometry data using a universal query language, MassQL, together with its associated software. The publication achieved an Altmetric Attention Score of 123 – higher than 98 percent of articles published in the same period in terms of media and online attention. It also received 39 scientific citations and, by December, ranked among the top ten percent in its field according to Web of Science.



MassQL open software



QUALITY CERTIFICATION FOR LANGUAGE DATA REPOSITORY

The Eurac Research CLARIN Centre (ERCC) is an open linguistic data archive within the European CLARIN ERIC network. In 2025, the ERCC received the CoreTrustSeal – an international certification recognizing quality, security, and reliability. The repository currently contains 43 datasets and ensures that they are findable, accessible, interoperable, and reusable in line with the FAIR principles.



More on CLARIN



openEO becomes an international standard

To make the analysis of large volumes of satellite data simpler and more collaborative, a Eurac Research team led by Alexander Jacob has for years been working on the development of openEO – an interface that standardizes access to Earth observation data across different cloud systems, allowing data to be searched, used, and analyzed in the same way. The Open Geospatial Consortium (OGC) – the international organization responsible for geospatial data standards – has now officially recognized openEO as a Community Standard. As a data interface, openEO is also supported by the European Commission through programs including Copernicus and “Destination Earth,” as well as by the European Space Agency (ESA) and EUMETSAT.



More on openEO



Source: internal databases, Altmetric, CrossRef, Scopus, Web of Science
Data refers to 01/01–12/31/2025 (survey date: 03/31/2026)

ADIGE WATER FAIR

In May 2025, stakeholders from across the Adige/Etsch river basin came together for the first time to discuss water management – bringing together experts from agriculture and hydropower as well as communities living upstream and downstream. The aim was to foster exchange and collaboration, both essential to preventing conflicts over water resources. The discussions and recommendations from the event were later collected in an online publication. Among the key points raised was the need for better access to research data. As water resources expert Stefano Terzi explains: “Data are highly fragmented, which is why we recommend creating a central portal for all data and models, making them easily accessible for download and scientific analysis.”



Summary of the topics covered at the Adige Water Fair



Climate Risks and Adaptation

South Tyrol is already experiencing the effects of climate change – and those impacts are set to intensify in the years ahead. For the first time, a technical report systematically assesses current and future climate risks across nine key sectors. Produced by a team of 20 researchers, the study identifies the areas most in need of adaptation, highlights complex interconnections, and outlines strategies to make South Tyrol more climate-resilient, livable, equitable, and economically robust. The report was developed in close collaboration with the local government and is funded through the Province’s L.14 research program.



The Climate Risks and Adaptation technical report



42%

Our first sustainability review

In just a few years, energy consumption per person at Eurac Research has fallen by 42 percent – one of the key findings in our first sustainability review. Although associations like ours are not legally required to publish such a review, “it was a voluntary choice to be transparent,” explains Sustainability Manager Aureliano Piva. The reduction was achieved through a combination of measures: more precise monitoring of energy use to identify inefficiencies, the connection to district heating – which nearly halved the thermal energy used at our headquarters between 2022 and 2023 – and the introduction of a more efficient cooling system. The sustainability review also points to areas where further action is needed, particularly emissions linked to business travel, especially short-haul flights. At the same time, Piva highlights the strong level of staff engagement throughout the process. Around 150 people – roughly 20 percent of employees – took part through workshops, surveys, and working groups, a remarkably high participation rate for this kind of initiative.

Research inevitably comes with an environmental footprint: it requires energy, travel, and resources. Yet research also contributes to solutions, from decarbonization and ecosystem protection to social inclusion. For Piva, this tension should not become an excuse for inaction: “We must remain true to ourselves and continue our efforts, both small and large. At Eurac Research, there is a high level of environmental awareness among individuals, and many daily practices already reduce our impact: now we want to transform this focus into structural choices, increasingly integrating environmental criteria into decision-making processes.”



Our sustainability strategy and sustainability review



At the Klimahouse/CasaClima trade fair in Bolzano, we presented the ZERAF project in which we develop prototypes for smart façades that can function as insulation at certain times and as a heat exchanger at others.

Scientific conferences

Sustainable urban and regional planning, efficient water management, the importance of women in agriculture, and their role in politics: more than 100 international experts attended some of the academic congresses and conferences organized at our locations in 2025.

First and foremost, the biennial “Smart and Sustainable Planning for Cities and Regions” conference, which drew around 250 participants; launched ten years ago, it was held for the fifth time. Dedicated to sustainable urban and spatial planning, the event has evolved into an international event where researchers, public administrators, and industry experts exchange knowledge and contribute concretely to the development of methods and tools to address climate change, advance the energy transition, and shape the cities of the future.

250

participants

attended the “Smart and Sustainable Planning for Cities and Regions - SSPCR 2025” conference

128

participants

attended the Adige Water Fair 2025 (see page 56)

MOC is born

The MultiOmics Center (MOC) provides research services that support South Tyrol’s agriculture, healthcare, food production, and biotechnology sectors. Bringing together the expertise of the Laimburg Research Centre and Eurac Research, its interdisciplinary scientific team offers experimental and analytical services to local research institutions and companies.

The MOC combines state-of-the-art laboratory facilities with highly qualified staff to carry out research in genomics, transcriptomics, proteomics, and metabolomics. Alongside laboratory activities, the center also provides high-performance computing infrastructure for data processing, storage, and management.



Center presentation video



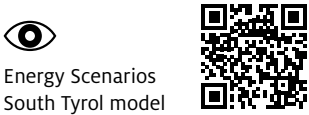


Matteo Prina at the South Tyrol Junior Research Award ceremony.

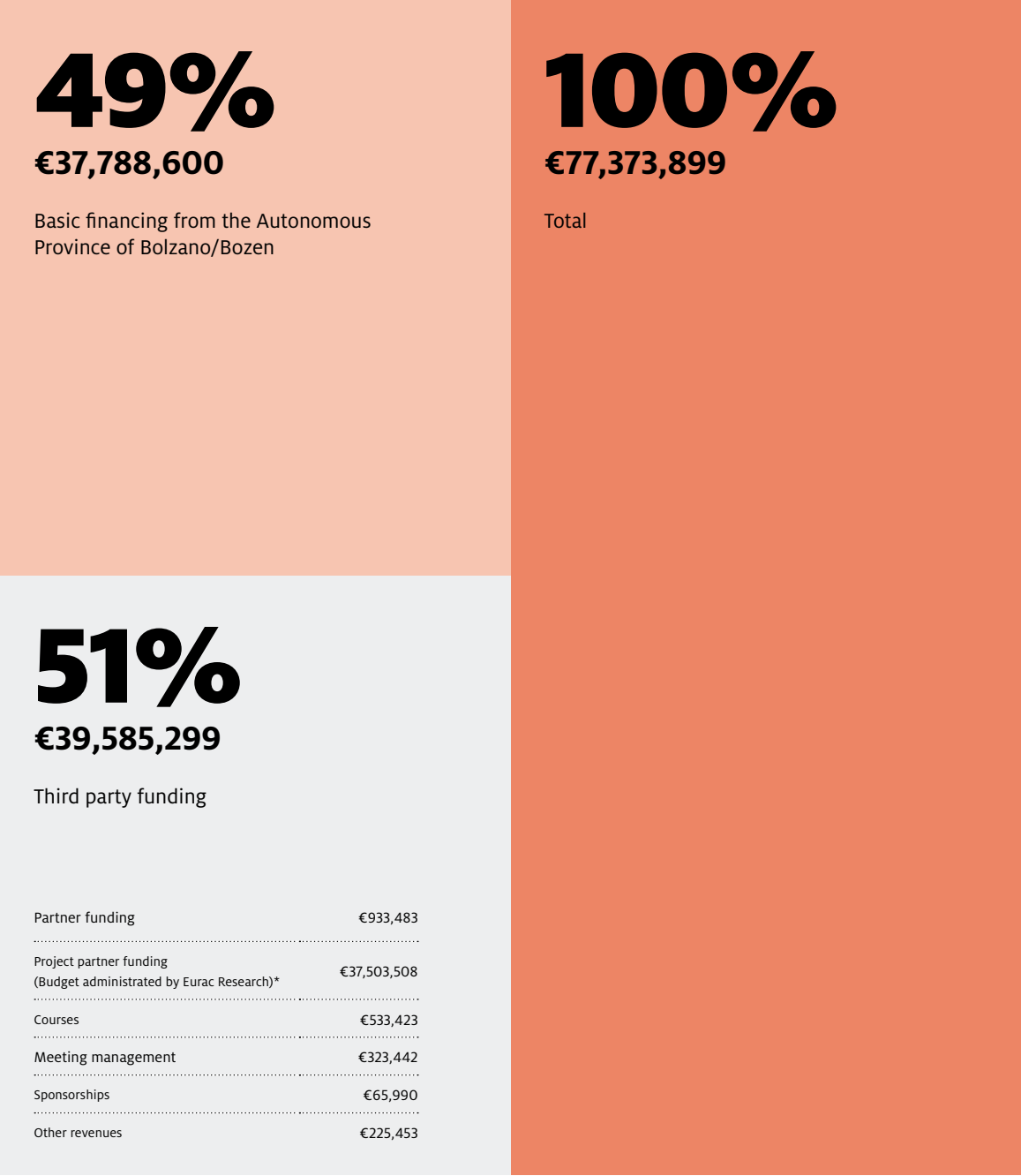
How much will the energy transition cost?

Decarbonization is forcing regional and municipal governments to make difficult choices: which technologies should they invest in, and which sectors should be supported to reduce CO₂ emissions without putting public finances under strain? To help answer these questions, Eurac Research has developed a mathematical model that simulates future energy scenarios in great detail and compares them with current energy systems. The model analyzes energy use hour by hour over an entire year and identifies the most cost-effective pathway to achieving climate targets among thousands of possible scenarios. The model has already been applied in South Tyrol, Piedmont, Lower Austria, and Salzburg, with Lombardy and four other European regions set to follow. Across all case studies, the findings have been remarkably consistent, explains energy expert Matteo Prina, who has worked on energy scenario models for more than a decade: “With costs only slightly higher than today’s, CO₂ emissions could be reduced by up to 80 percent – while also benefiting the local economy.” By reducing spending on imported fossil fuels, more investment can remain within the region, supporting local skills, jobs, and supply chains.”

In December 2025, Prina was awarded the South Tyrol Junior Research Award, which recognizes outstanding scientific achievements by young researchers. Together with colleague Steffi Misconel, Matteo Prina showed that South Tyrol could reduce CO₂ emissions by 55 percent by 2030 through simulations carried out within the PNRR-iNEST project. According to the model, this would increase overall energy system costs by around 15 percent compared with today, but 36 percent of those expenditures would remain within the province – up from the current 12 percent – while also meeting the targets set out in the South Tyrol Climate Plan.

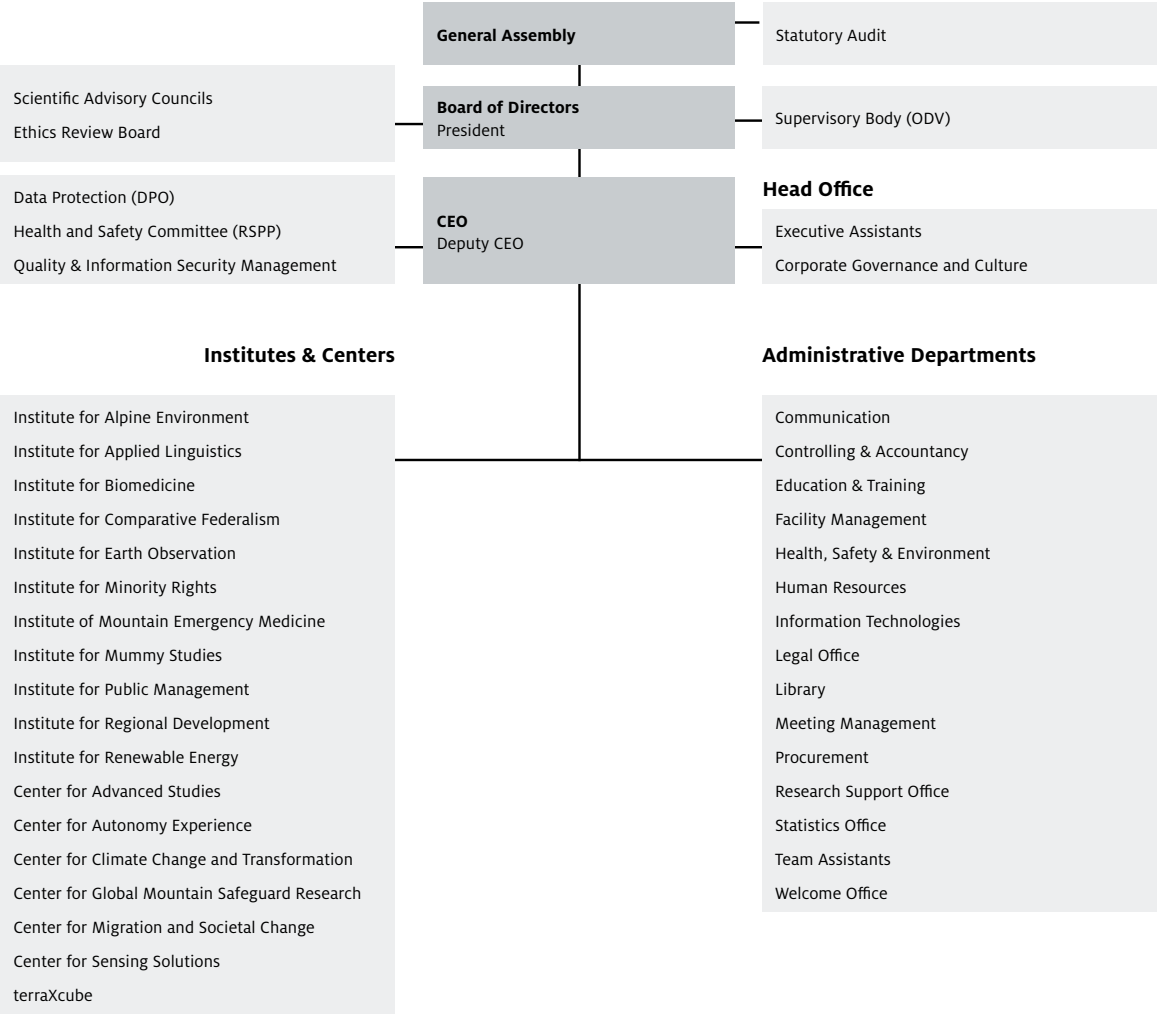


Finance



* Of the budget administered in the financial year 2025 by Eurac Research (37.5 million euros) 28.2 million euros came from EU funding. Eurac Research manages 15 million euros of these EU funds on behalf of EU project partners. The total budget also includes 3.1 million, which Eurac Research acquired primarily within the Autonomous Province of Bolzano/Bozen of the “Research Offensive” framework.

Organigram



Committees

MEMBERS

Autonome Provinz Bozen /
Provincia autonoma di Bolzano
Autonome Region Trentino-Südtirol /
Regione autonoma Trentino-Alto Adige
Bezirksgemeinschaft Burggrafenamt /
Consorzio comprensoriale del
Burgraviato
Brennercom AG
Freie Universität Bozen /
Libera Università di Bolzano
Gemeinde Bozen / Comune di Bolzano
Gemeinde Brixen /
Comune di Bressanone
Gemeinde Meran / Comune di Merano
Handels-, Industrie-, Handwerks- und
Landwirtschaftskammer / Camera di
commercio, industria, artigianato e
agricoltura di Bolzano
Handels- und Dienstleistungsverband
Südtirol / Unione commercio turismo
servizi Alto Adige
Hoteliers- und Gastwirteverband /
Unione albergatori e pubblici esercenti
Wirtschaftsverband Handwerk und
Dienstleister / Confartigianato Imprese
Messe Bozen / Fiera Bolzano
NOI AG
Raiffeisenverband Südtirol /
Federazione cooperative Raiffeisen
Stiftung Südtiroler Sparkasse /
Fondazione Cassa di Risparmio di
Bolzano
Südtiroler Bauernbund / Unione
agricoltori e coltivatori diretti sudtirolesi
Südtiroler Kulturinstitut
Universität zu Lübeck
Athesia AG spa

CONTRIBUTING MEMBERS

Raiffeisenkasse Bozen /
Cassa Rurale di Bolzano
Südtiroler Volksbank /
Banca Popolare dell'Alto Adige

BOARD OF DIRECTORS
(2023-2027)

Roland Psenner
President

Massimo Tagliavini
Vice President

Evelyn Kustatscher
Philipp Moser
Peter Silbernagl

STATUTORY AUDITOR
(2025-2027)

Sara Pitscheider
Wirtschaftsprüferin und Steuerberaterin /
Revisora dei conti e commercialista

Eurac Research
Drususallee/Viale Druso 1
39100 Bozen/Bolzano
T +39 0471 055 055
info@eurac.edu
www.eurac.edu

Editing
Valentina Bergonzi,
Sigrid Hechensteiner e
Francesca Taponecco
(Coordination), Barbara Baumgartner,
Giovanni Blandino, Laura Defranceschi,
Andrea De Giovanni, Sarah Gunsch,
Daniela Mezzena, Elena Munari,
Rachel Wolffe

Translations
Rachel Wolffe

Data Analysis
Francesca Taponecco
(Coordination), Cinzia Bettella,
Stefanie Gius, Sabrina Zung

Graphics
Elisabeth Aster, Alessandra Stefanut

Illustrations
Silke De Vivo

Special thanks to
Martin Angler, Maria Bellantone,
Margot Breitenberger, Marco Cecchel-
lero, Alexa De Marchi, Lorenzo Forlin,
Antje Messerschmidt, Annalisa Ono-
moni, Eva Maria Moar, Alessia Mortari,
Manfred Prunner, Monica Serafini,
Mattia Valer, Verena Zublasing, Team
Assistants

Image editor
Annelie Bortolotti

Photography
03, 06, 14 (3), 23, 28, 29, 30, 32:
Eurac Research/Andrea De Giovanni
09, 14 (2), 19, 54: Eurac Research
10, 11, 36, 42, 60: Eurac Research/
Annelie Bortolotti
13: Versuchszentrum Laimburg/
Agnese Martinelli*
14 (1): Vigili del fuoco Bolzano*
16: Eurac Research/Martin Telser
18, 20, 21, 58: Eurac Research/
Marina Baldo
04, 24: Eurac Research, Noi Techpark/
Daniele Fiorentino
41: Eurac Research/Guido Valverde

*all rights reserved

Final edit 30 April 2026

Printing
Lanarepro, Lana (BZ)

To find out more about our staff,
publications and achievements, visit
the digital version of this report, which
includes our Appendix:



© Eurac Research, 2026



This publication is under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

Certain portions of this Open Access publication can contain copyrighted materials. In this case, these materials are protected by copyright law, and permission for their inclusion in the present work has been obtained from the respective copyright holders. Copyrighted material cannot be – by way of example but not limited – copied, modified, reused and/or redistributed by third parties in any other medium without permission from the respective copyright holder.

Eurac Research

Drususallee/Viale Druso 1
39100 Bozen/Bolzano

T +39 0471 055 055
info@eurac.edu

www.eurac.edu

APPENDIX

Institute for Alpine Environment

Head of Institute
Ulrike Tappeiner

Vice Head of Institute
Roberta Bottarin

Staff	Staff members	67
	with a PhD degree	24
	PhD students (employee contracts and scholarships)	13
Scientific Outputs	Scientific publications	46
	articles in peer reviewed journals	41
	Scientific presentations and posters	98
Co-financed research and commissioned projects	Co-financed research projects	49
	with international partners	33
	Commissioned projects	4
Laboratories and facilities	with international agencies	1
	Ecology Lab / Open Air Laboratory Matschertal – Val di Mazia	2

Scientific Advisory Council

Monika Egerer
School of Life Science Weiher-
stephan, Technische Universität
München, Germany

Michele Freppaz
ULF Chimica Agraria e Pedologia,
Università di Torino, Italy

Heidi Hauffe
Fondazione Edmund Mach, San
Michele all'Adige, Italy

Dean Jacobsen
Freshwater Biological Section,
Department of Biology, University
of Copenhagen, Denmark

Marco Pietrogiovanna
Ufficio Pianificazione forestale/
Amt für Forstplanung, Autonomous
Province of Bolzano/Bozen, Italy

Institute for Applied Linguistics

Head of Institute
Andrea Abel

Research Group Leaders
Jennifer-Carmen Frey,
Natascia Ralli

Staff	Staff members	26
	with a PhD degree	16
	PhD students (employee contracts and scholarships)	2
	Scientific publications	32
	articles in peer reviewed journals	16
	Scientific presentations and posters	79
	Co-financed research projects	29
Scientific Outputs	with international partners	7
Co-financed research and commissioned projects		

Scientific Advisory Council

Alexandre Duchêne
Department of Multilingualism
and Foreign Language Education,
University of Fribourg, Switzerland

Adriano Ferraresi
Dipartimento di Interpretazione e
Traduzione, Università di Bologna,
Italy

Magali Paquot
Institut Langage et Communication,
Université Catholique de Louvain,
Louvain-la-Neuve, Belgium

Barbara Plank
Center for Information and
Language Processing (CIS), LMU
Munich, Germany

Donatella Pulitano
Central Language Services, State
Chancellery of the Canton of Bern,
Switzerland



Head of Institute
Peter P. Pramstaller

Vice Heads of Institute
Vera Amon, Andrew A. Hicks, Francisco M. Lopes da Silva Domingues

Research Group Leaders
Christian Fuchsberger, Deborah Mascalzoni, Cristian Pattaro

Technical Group Leaders
Alessandro De Grandi, Clemens Egger, Claudia Volpato

Staff	Staff members	87
	with a PhD degree	44
	PhD students (employee contracts and scholarships)	8
Scientific Outputs	Scientific publications	39
	articles in peer reviewed journals	34
	Scientific presentations and posters	37
Co-financed research and commissioned projects	Co-financed research projects	44
	with international partners	26
Laboratories and facilities	Biomedical Research Lab, Biobank, CHRIS Study Center	3

Scientific Advisory Council

Niko Beerenwinkel
Department of Biosystems Science and Engineering, ETH Zurich, Switzerland

Michael Boehnke
Department of Biostatistics, School of Public Health, University of Michigan, USA

Peter Heutink
Department of Medical Genomics, University Medical Center Groningen, The Netherlands

Markus Ralser
Institute of Biochemistry, Charité – Universitätsmedizin Berlin, Germany

Ylva Trolle Lagerros
Clinical Epidemiology Division, Department of Medicine, Karolinska Institute, Stockholm, Sweden

Paolo Vineis
Environmental Epidemiology, School of Public Health, Faculty of Medicine, Imperial College London, UK

Institute for Comparative Federalism

Head of Institute
Francesco Palermo

Research Group Leaders
Elisabeth Alber, Karl Kössler, Alice Valdesalici

Coordinator
Carolin Zwilling

Staff	Staff members	21
	with a PhD degree	14
	PhD students (employee contracts and scholarships)	1
Scientific Outputs	Scientific publications	50
	articles in peer reviewed journals	11
	Scientific presentations and posters	57
Co-financed research and commissioned projects	Co-financed research projects	21
	with international partners	17
	Commissioned projects (services and consultancies)	6
	with international agencies	3

Scientific Advisory Council

Paul Blokker
Department of Sociology and
Economic Law, University of
Bologna, Italy

Giuseppe Martinico
Comparative Public Law, Scuola
Superiore Sant'Anna, Pisa, Italy

Christina Murray
Emerita, Department of Public Law,
University of Cape Town,
South Africa

Carmen Navarro
Department of Political Science,
Universidad Autónoma of Madrid,
Spain

Erin Ryan
College of Law, Florida State
University, USA



Head of Institute
Claudia Notarnicola

Research Group Leaders
Mariapina Castelli, Carlo Marin

Vice Head of Institute
Alexander Jacob

Staff	Staff members	39
	with a PhD degree	16
	PhD students (employee contracts and scholarships)	6
Scientific Outputs	Scientific publications	16
	articles in peer reviewed journals	11
	Scientific presentations and posters	55
Co-financed research and commissioned projects	Co-financed research projects	34
	with international partners	25
	Commissioned projects	3
	with international agencies	1

Scientific Advisory Council

Marie Dumont
Snow Study Center CNRM (UMR
CNRS & Météo-France), St
Martin d'Hères, France

Willigis Gallmetzer
Ufficio Centro funzionale provinciale/
Amt Landeswarnzentrum,
Agenzia per la Protezione civile/

Agentur für Bevölkerungsschutz,
Autonomous Province of Bolzano/
Bozen, Italy

William P. Kustas
Hydrology and Remote Sensing
Laboratory, USDA-Agricultural
Research Service, Beltsville,
MD, USA

Christian Massari
Research Institute for the Geo-
hydrological Protection (IRPI),
Consiglio Nazionale delle Ricerche
(CNR), Perugia, Italy

Peter Strobl
Joint Research Centre (JRC), Euro-
pean Commission (EC), Ispra, Italy

Institute for Minority Rights

Head of Institute
Günther Rautz

Research Group Leaders
Alice Engl, Roberta Medda-Windischer

Staff	Staff members	18
	with a PhD degree	11
	PhD students (employee contracts and scholarships)	1
	Scientific publications	30
	articles in peer reviewed journals	8
	Scientific presentations and posters	69
	Co-financed research projects	22
	with international partners	9
	Commissioned projects	1
	with international agencies	1
Scientific Outputs		
Co-financed research and commissioned projects		

Scientific Advisory Council

Elizabeth Craig
School of Law, Politics and Sociology,
University of Sussex, UK

Jussi Laine
Karelian Institute, University of
Eastern Finland, Finland

Emma Lantschner
Centre for Southeast European
Studies, Karl-Franzens-Universität
Graz, Austria

Emanuele Massetti
Department of Sociology and social
research, University of Trento, Italy

Alexandra Xanthaki
Law School, Brunel University of
London, UK

Institute of Mountain Emergency Medicine

Head of Institute
Hannes Gatterer

Research Group Leaders
Simon Rauch, Christoph Siebenmann

Giacomo Strapazzon
(Head of Mountain Clinic)
Giovanni Vinetti
(Medical director of Mountain Clinic)

Staff	Staff members	25
	with a PhD degree	11
	PhD students (employee contracts and scholarships)	1
Scientific Outputs	Scientific publications	42
	articles in peer reviewed journals	32
	Scientific presentations and posters	27
Co-financed research and commissioned projects	Co-financed research projects	20
	with international partners	12
	Commissioned projects	1
Laboratories and facilities	Mountain Clinic	1

Scientific Advisory Council

Peter Hackett
Institute of Altitude Medicine,
Medical Center in Telluride,
Colorado, USA

Benjamin D. Levine
Institute for Exercise and Environ-
mental Medicine, Texas Health
Presbyterian Hospital Dallas, USA

Marco Maggiorini
Department of Internal Medicine,
University Hospital Zurich,
Switzerland

Peter Paal
Abteilung für Anästhesie und In-
tensivmedizin, Barmherzige Brüder
Krankenhaus Salzburg, Austria

Ken Zafren
Department of Emergency Medicine;
Stanford University Medical Center,
USA

Institute for Mummy Studies

Head of Institute
Frank Maixner

Staff	Staff members	15
	with a PhD degree	8
Scientific Outputs	PhD students (employee contracts and scholarships)	3
	Scientific publications	19
	articles in peer reviewed journals	19
	Scientific presentations and posters	27
Co-financed research and commissioned projects	Co-financed research projects	9
	with international partners	8
	Commissioned projects	5
	with international agencies	3
Laboratories and facilities	Ancient DNA Lab, Modern DNA Lab, Anthropology Lab, Conservation Lab	4

Scientific Advisory Council

Daniel G. Bradley
Smurfit Institute of Genetics, Trinity College, Dublin, Irland

Lars Engstrand
Department of Microbiology, Tumor and Cell Biology, Karolinska Institutet, Stockholm, Sweden

Vito Claudio Fericola
INRIM – Istituto Nazionale di Ricerca Metrologica, Torino, Italy

Salima Ikram
Department of Sociology, Egyptology and Anthropology, The American University in Cairo, Egypt

György Pálfi
Department of Biological Anthropology, University of Szeged, Hungary

Institute for Public Management

Head of Institute
Kurt Promberger

Vice Head of Institute
Josef Johann Bernhart

Staff	Staff members	14
	with a PhD degree	3
Scientific Outputs	Scientific publications	3
	articles in peer reviewed journals	3
	Scientific presentations and posters	3
Co-financed research and commissioned projects	Co-financed research projects	8
	with international partners	7
	Commissioned projects	5

Scientific Advisory Council

Franziska Cecon
Public Management, FH Ober-
österreich, Linz, Austria

Ursin Fetz
Zentrum für Verwaltungsmanage-
ment, Fachhochschule Graubünden,
Chur, Switzerland

Marco Meneguzzo
Facoltà di Economia, Università degli
Studi di Roma Tor Vergata, Italy

Manfred Röber
Wirtschaftswissenschaftliche
Fakultät, Universität Leipzig,
Germany

Paolo Rondo-Brovetto
Fakultät für Wirtschafts-
und Rechtswissenschaften,
Universität Klagenfurt, Austria

Institute for Regional Development

Head of Institute
Thomas Philipp Streifeneder

Staff	Staff members	21
	with a PhD degree	7
	PhD students (employee contracts and scholarships)	3
	Scientific publications	27
	articles in peer reviewed journals	13
	Scientific presentations and posters	34
	Co-financed research projects	33
	with international partners	18
	Commissioned projects	3
	with international agencies	1

Scientific Advisory Council

Beatrice Durrer Eggerschwiler
Institut für Soziokulturelle
Entwicklung, Hochschule Luzern –
Soziale Arbeit, Switzerland

Georg Hauger
Institut für Raumplanung – IVS
Verkehrssystemplanung,

Technische Universität Wien,
Austria

Peter Kasal
Ripartizione Libro fondiario,
catasto fondiario e urbano/
Abteilung Grundbuch, Grund-
und Gebäudekataster, Autonomous
Province of Bolzano/Bozen, Italy

Alessandra Proto
OECD – Trento Centre for Local
Development, Trento, Italy

Institute for Renewable Energy

Head of Institute
Wolfram Sparber

Vice Head of Institute
Alexandra Troi

Research Group Leaders
Marco Cozzini, Daniel Herrera Gutierrez-Avellanosa, Roberto Lollini, Luis Pereira Fialho, Matteo Prina, Daniele Vettorato

Staff	Staff members	162
	with a PhD degree	62
	PhD students (employee contracts and scholarships)	15
Scientific Outputs	Scientific publications	86
	articles in peer reviewed journals	61
	Scientific presentations and posters	120
Co-financed research and commissioned projects	Co-financed research projects	91
	with international partners	47
	Commissioned projects	95
Laboratories and facilities	with international agencies	20
	Accelerated Life Testing Lab, Energy Exchange Lab, Multifunctional Façade Lab, Façade System Interactions Lab, G-value Lab, Heat Pumps Lab, Hygrothermal Testing Lab, PV Integration Lab, PV Operation & Maintenance Lab, PV Prototyping Lab, Solare PV Lab, Volatile Organic Compounds Lab, Agrivoltaic pilot site, Photovoltaic Test Field	14
Accreditation	Tests accredited by Accredia according to UNI CEI EN ISO/IEC 17025:2018 (01546 TL)	11

Scientific Advisory Council

Oreste Bottaro
Innova S.r.l., Italy

Michael de Bou
Unit Building Performance & Renovation, Buildwise, Brussels, Belgium

Giampaolo Manzolini
Department of Energy, Politecnico di Milano, Italy

Hans-Martin Neumann
Division Planning, Technology and Environment, Linz, Austria

Bonna Newman
Lightyear, The Netherlands

Marco Perino
Energy Department, Politecnico di Torino, Italy

Center for Advanced Studies

Head of Center
Harald Pechlaner

Vice Head of Center
Giulia Isetti

Co-Head of Center
Roland Benedikter

Staff	Staff members	24
	with a PhD degree	9
	Scientific publications	10
	articles in peer reviewed journals	3
	Scientific presentations and posters	21
Scientific Outputs	Co-financed research projects	21
	with international partners	8
Co-financed research and commissioned projects		

Scientific Advisory Council

Elena Borin
Università Telematica Pegaso, Napoli,
Italy

Manuela Celi
Politecnico di Milano, Italy

Sabine Döring
Universität Tübingen, Germany

Michael Stampfer
Vienna Science and Technology Fund
(WWTF), Vienna, Austria

Center for Autonomy Experience

Head of Center
Marc Röggla

Staff	Staff members	8
	with a PhD degree	2
Scientific Outputs	Scientific publications	12
	articles in peer reviewed journals	3
	Scientific presentations and posters	17
Co-financed research and commissioned projects	Co-financed research projects	12
	with international partners	3
	Commissioned projects	1
	with international agencies	1

Center for Climate Change and Transformation

Head of Center
Marc Zebisch

Research Group Leader
Massimiliano Pittore

Vice Head of Center
Elisa Ravazzoli

Staff	Staff members	29
	with a PhD degree	12
	PhD students (employee contracts and scholarships)	5
Scientific Outputs	Scientific publications	21
	articles in peer reviewed journals	15
	Scientific presentations and posters	46
Co-financed research and commissioned projects	Co-financed research projects	24
	with international partners	9
	Commissioned projects	4
	with international agencies	2

Scientific Advisory Council

Willigis Gallmetzer
Ufficio Centro funzionale provinciale/Amt Landeswarnzentrum, Agenzia per la Protezione civile/Agentur für Bevölkerungsschutz, Autonomous Province of Bolzano/ Bozen, Italy

Matthias Garschagen
Department of Geography, Faculty of Geosciences, LMU Munich, Germany

Margreth Keiler
Institute for Interdisciplinary Mountain Research, Austrian Academy of Sciences, Innsbruck, Austria

Center for Global Mountain Safeguard Research

Head of Center
Stefan Schneiderbauer

Staff	Staff members	4 (+2*)
	with a PhD degree	3
	PhD students (employee contracts and scholarships)	1
	Scientific publications	24
	articles in peer reviewed journals	19
Scientific Outputs	Scientific presentations and posters	40
	Co-financed research projects	11
Co-financed research and commissioned projects	with international partners	5

Global Mountain Safeguard Research (GLO-MOS) is a collaborative programme and scientific alliance between Eurac Research and the United Nations University Institute for Environment and Human Security (UNU-EHS) based in Bonn.

*The team is made up of employees from both institutions.

Center for Migration and Societal Change

Head of Center
Verena Wisthaler

Staff	Staff members	10
	with a PhD degree	6
	Scientific publications	3
	articles in peer reviewed journals	2
	Scientific presentations and posters	24
Scientific Outputs	Co-financed research projects	10
	with international partners	3
Co-financed research and commissioned projects		

Center for Sensing Solutions

Head of Center
Roberto Monsorno

Staff	Staff members	16
	with a PhD degree	5
	PhD students (employee contracts and scholarships)	1
Scientific Outputs	Scientific publications	4
	articles in peer reviewed journals	2
	Scientific presentations and posters	14
Co-financed research and commissioned projects	Co-financed research projects	28
	with international partners	12
	Commissioned projects	6
Laboratories and facilities	with international agencies	4
	Sensor System Technologies Lab, Environmental Data Platform	2

Scientific Advisory Councils

Michael Oberhuber
Laimburg Research Centre for
Agriculture and Forestry, Bolzano/
Bozen, Italy

Monica Pepe
Institute for Electromagnetic Sensing
of the Environment, National Re-
search Council of Italy, Milano, Italy

Martin Werner
TUM School of Engineering and
Design, Technische Universität
München, Germany

Staff	Staff members	23
	with a PhD degree	8
	PhD students (employee contracts and scholarships)	3
Scientific Outputs	Scientific publications	8
	articles in peer reviewed journals	5
	Scientific presentations and posters	12
Co-financed research and commissioned projects	Co-financed research projects	17
	with international partners	6
	Commissioned projects	20
Laboratories and facilities	with international agencies	3
	Extreme climate simulator terraXcube	1
Accreditation	Tests accredited by Accredia according to UNI CEI EN ISO/IEC 17025:2018 (01546 TL)	4

Scientific Advisory Councils

Dominik Matt
Free University of Bozen-Bolzano;
Fraunhofer Italia Research,
Bolzano/Bozen, Italy

Giuseppe Quaranta
Department of Aerospace Science
and Technology, Politecnico di
Milano, Italy

Massimiliano Zampini
CIMEC – Centro Interdipartimentale
Mente e Cervello, Università di
Trento, Rovereto, Italy

The data presented in the Activity Report aggregate those of the 11 institutes and seven centers that together make up Eurac Research. This insert provides detailed information on staff, projects, and scientific output of the individual institutes and centers.

Staff

The data on employment contracts, coordinated and continuous collaboration contracts, and external doctoral scholarships were current as of 31 December 2025. All titles were accurate at the time of printing. Some staff members work across more than one institute or center, and some research outputs are collaborative.

Projects

Research projects (internally funded and third-party funded) and commissioned projects (assignments and consultancy services) active during the period 01.01–31.12.2025

Scientific publications

Books, contributions in books, journal publications, contributions in conference proceedings, scientific reports, PhD theses published in the period 01.01–31.12.2025

Source: internal databases