

Saarland University –

**Rooted in Europe,
Global in Outlook**



**UNIVERSITÄT
DES
SAARLANDES**







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A university in the heart of Europe

Located in the south-west of Germany, Saarland University has earned an international reputation for its research in computer science and informatics and for work in the life sciences and nanosciences. The university is also distinguished by close ties to France and by its strong European focus.

Around 18,000 students are currently enrolled at Saarland University studying over one hundred different academic disciplines. More than a quarter of them are studying for degrees in the fields of law or economics, while around fifteen percent are studying medicine or dentistry. Saarland University also offers numerous programmes in literary and cultural studies and in social and applied human sciences. The range of programmes in STEM subjects (science, technology, engineering, mathematics) is particularly broad.

Many of the departments at Saarland University collaborate closely with one another in both teaching and research. University academic staff also cooperate actively with the research teams at the numerous research institutions located in the vicinity of the university. All of the major German scientific organizations are represented on campus, which is home to two institutes of the Max Planck Society, two institutes within the Leibniz Association, two Fraunhofer institutes of applied research and a Helmholtz research centre. Compared to other mid-sized universities, Saarland University receives above-average levels of third-party funding from sources such as the German Research Foundation (DFG), the German Government and the European Union.

The Cluster of Excellence in the field of informatics enjoys an excellent international reputation and the numerous awards received by many of the scientists working in the cluster are testimony to the standard of research being carried out. The Leibniz Prize, for example, has been awarded to six

The university's main campus is in a pleasant woodland setting, but the centre of Saarbrücken is only a short bus ride away.

Saarbrücken computer scientists and to three other researchers working at Saarland University. The ERC Grant – the most lucrative research prize bestowed by the European Union – has already been awarded ten times to researchers associated with Saarland University, seven of which work in the computing and information technology fields.

Saarland University was founded in 1948 under the auspices of the French government as a bilingual university. One of the university's most attractive features is its favourable location close to both France and Luxembourg. High-speed train services will take you to Paris in less than two hours, the city of Luxembourg is only a hundred kilometres away and it is not far to Belgium. With its pronounced international focus and strong ties to universities in Europe and around the world, Saarland University is more international than almost any other German university. International students currently make up about seventeen percent of the student body. More than 120 nationalities are represented at the university. Saarland University maintains over 500 cooperative partnerships with institutions of higher education around the world, giving every student the opportunity to complete part of their study programme abroad.

The university has two campuses. Situated only a few kilometres from the centre of Saarbrücken in a pleasant woodland setting, the main campus is home to most of the university's faculties and departments. Homburg, which is where the Medical School and the University Teaching Hospital are located, is about 30 kilometres from the Saarbrücken campus. As one of Germany's recognized family-friendly higher-education institutions, Saarland University runs two child day-care facilities on campus. Through the 'Elite Sports Partnership' initiative, the university also helps young top athletes balance the demands of academic study with the requirements of their intensive training regimens. All students have access to over 60 different types of sport via the University Sports Programme.

The cafés and lawns situated around the Saarbrücken campus are perfect for meeting up with friends or relaxing between classes. The surrounding woodland and the nearby wildlife park offer plenty of opportunities for a relaxing walk or an after-class run. Cultural life at Saarland University is varied and vibrant. In addition to the orchestras and choirs in the university's Collegium Musicum, there are numerous student theatre groups and for movie fans the Students' Union Executive Committee (AStA) screens a film once a week.



Studying at Saarland University: Crossing borders and pushing boundaries



Saarland University offers more than **one hundred different degree programmes**. The range of courses available includes the traditionally popular academic disciplines such as business economics, law, medicine and teacher training programmes, and the more recent interdisciplinary degree programmes such as bioinformatics, microfabrication and nanostructures or computer linguistics. These newer disciplines operate at the interface of multiple academic and scientific fields and the research work in these areas often yields new and innovative findings. In the social sciences and humanities, interdisciplinary degree programmes such as ‘Historically Oriented Cultural Studies’ or ‘Intercultural Communication’ attract students from across Germany to study in Saarbrücken.

The significance of **computer science and informatics** in Saarbrücken is underscored by the fact that around 500 researchers work in the eight highly respected research institutes located on and around the campus – making Saarbrücken one of Europe’s leading centres of research and teaching in the field. About 1700 students from 30 nations are enrolled in degree programmes in informatics, computer science and related fields.

There is also significant interaction with other subject areas, with students able to enrol in programmes such as ‘Cybersecurity’, ‘Media Informatics’ or ‘Computer and Communications Engineering’. After completing their Bachelor’s degree, particularly talented students can be fast-tracked into a doctoral research programme at the Saarbrücken Graduate School of Computer Science.

In addition to its excellent ranking in computer science and informatics, Saarland University regularly receives very high ratings from the German Centre for Higher-Education Development (CHE) in a number of other academic disciplines. Subject areas that have been recognized for excellence include pharmaceutical science, biology, psychology, sports science, British and American studies and Romance language and literature. The degree programme ‘Materials Science and Materials Engineering’ is one of the top five courses for materials science in Germany.

A distinctive feature of Saarland University is the **broad range of cross-border academic programmes** that lead to a double-degree qualification or even to a triple-degree qualification if a third foreign partner institution is involved. A study-abroad phase is an integral part of these bi- and tri-national programmes. Students on these programmes not only graduate with a Bachelor’s or Master’s degree, they also have

the opportunity to become intimately acquainted with the language and culture of another country. Most of the bi- and tri-national programmes offered by Saarland University are run jointly with partner universities in France. Saarland University is in fact the only institution of higher education in Germany entitled to award French degrees in a number of subject areas. The university also maintains excellent teaching and research networks with other universities around the world through the EU’s Erasmus programme and other academic cooperation schemes. Every student at Saarland University therefore has the opportunity to spend one or two semesters studying abroad.



Being a campus university, the close physical proximity of the various university departments to one another is often a reflection of the close cooperative links between them. The campus is also home to numerous external research institutes that collaborate closely and fruitfully with the university. Students therefore have the opportunity to become acquainted with cutting-edge research at an early stage of their university education and can in some cases help to fund their studies by taking up positions as student research assistants. In most of the academic programmes offered at Saarland University, students benefit from small-group supervision and close academic interaction between students and their instructors. In the field of informatics there is one member of research staff for every four students, while in materials science about a dozen professors provide supervision to each year's new intake of around 80 students.

Internships and work placements in industry and business enable students to learn more about questions of current interest to companies in the field and to become acquainted with potential future employers.

Degree programmes in the humanities and cultural studies are structured to provide students with opportunities to learn about the many and varied career options open to them as well as offering courses on

such topics as knowledge management, cultural management, journalism and world-of-work skills.

The **Zertifikat Europaicum** is a supplementary qualification that students of all disciplines at Saarland University can work towards and that aims to prepare them for the European career market. Each year Saarland University plays host to a guest professor from a particular European country. The visiting academic spends two semesters teaching in Saarbrücken, giving students the opportunity to broaden their horizons and to experience a new or alternative perspective on a particular field of study.

In 2012, Saarland University was one of the first universities in Germany to achieve **Quality Assurance Accreditation**. QA accreditation means that the quality of the courses and teaching across all faculties and departments is so high that the entire range of academic programmes offered by Saarland University has been officially recognized through the award of a quality mark.

University institutions such as the Language Centre, where students can choose from more than twenty languages, the Skills Centre or the university's sports and recreational activities programme guarantee that student life in Saarbrücken and Homburg is both diverse and fulfilling.



International research at Saarland University



Of Germany's mid-sized universities, Saarland University has one of the strongest research profiles. This is demonstrated by the substantial amounts of third-party funding received, by our well-known internationally networked research teams and by the numerous highly respected external research institutes based on campus. Over the last few decades, the following research fields have developed into distinctive features of the research landscape at Saarland University:

COMPUTER SCIENCE / INFORMATICS

Saarbrücken is one of the world's leading centres for computer science and informatics. Among the many projects currently undertaken, researchers are developing computer systems that are able to communicate naturally with humans. Saarland University is the only university in Germany that can boast a Graduate School of Computer Science and a Cluster of Excellence in the field of informatics, which are run in collaboration with the German Research Center for Artificial Intelligence (DFKI) and the two Max Planck Institutes for Informatics and for Software Systems, all of which are located on the Saarbrücken campus.



The research work in informatics being carried out in Saarbrücken attracts young doctoral research talent from around the world.

Saarbrücken computer scientists are also active in other highly respected on-campus research institutes, such as the Center for Bioinformatics (CBI) and the Center for IT-Security, Privacy und Accountability (cisPA).

The broad range of research topics – from IT security to man-machine interactions – is also reflected in the teaching and instruction provided to students. The computer

science and informatics research hub at Saarland University is both exciting and inspiring and attracts undergraduate, graduate and doctoral students from around the world. Computer science in Saarbrücken has also proved extremely successful in combination with other disciplines. Examples include: bioinformatics, computer linguistics, media informatics, business informatics and legal informatics.



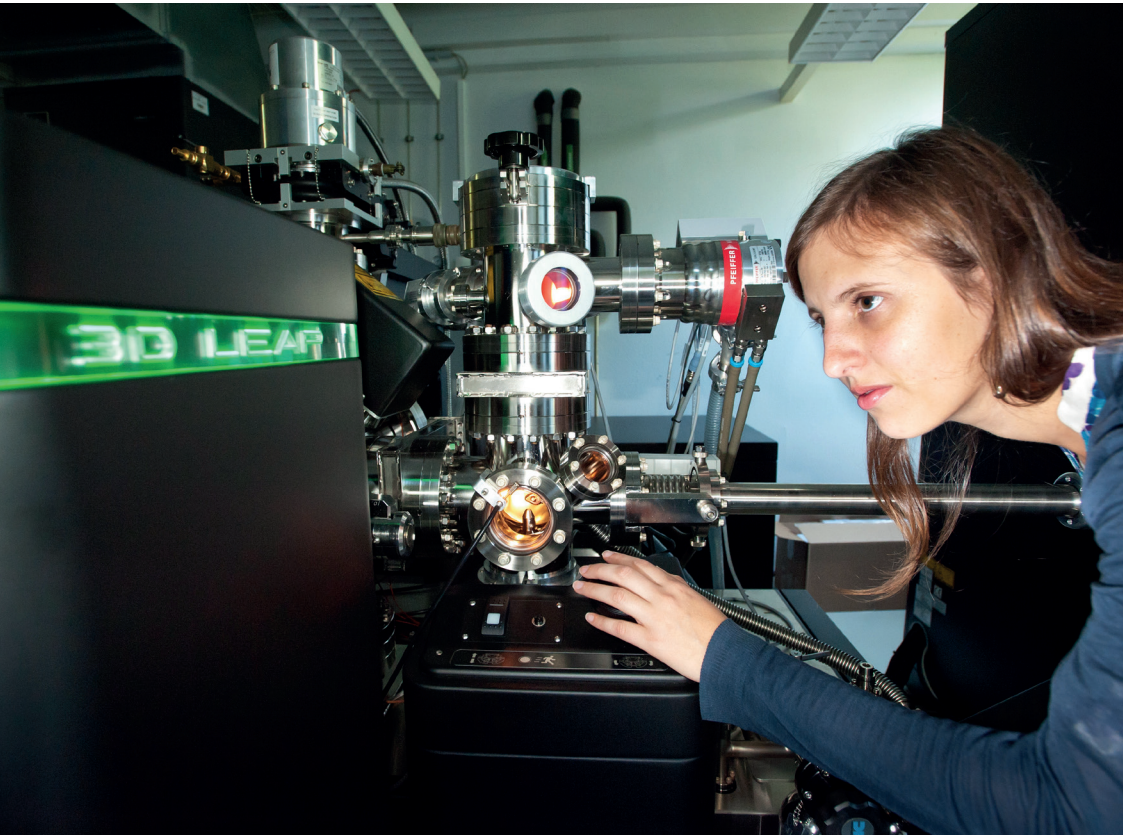
NANOBIOMED – LIFE AND MATERIALS

The research hub ‘NanoBioMed – Life and Materials’ combines the physical and material sciences with the pharmaceutical and medical sciences. The research focuses on the causes of diseases, new methods of treatment and on personalized therapies. The scientists collaborate closely with the numerous distinguished research institutions situated on and around campus.

Biologists and medical scientists are working with research staff at the Leibniz Institute for New Materials (INM) to find new materials for medical implants. Material scientists at the university are using atom-probe tomography to analyse the interior of materials in an effort to improve their properties. The pharmaceutical scientists at the Helmholtz Institute for Pharmaceutical Research Saar-

land (HIPS) are developing active agents to counter infectious diseases and are optimizing them for human use. The Center for Bioinformatics (CBI) is developing software systems that can simulate biochemical processes or analyse laboratory data.

Scientists and clinicians at the University Teaching Hospital in Homburg are working together to improve our understanding of how nerve cells communicate with one another. Besides the fundamental research work being conducted in numerous collaborative research centres, much of the work is focused on identifying and developing novel diagnostic and therapeutic techniques. For example, interdisciplinary teams are currently working on a new generation of hearing aids, new tumour therapies and on artificial heart valves.



Materials scientists in Saarbrücken are using 3D atom-probe tomography to examine the internal structures of materials.



FRANCE AND EUROPE

The close ties that Saarland University maintains with France and the strong European focus have been some of the defining features of the university since it was founded. The **Europa-Institut** – an internationally respected teaching and research institute with sections focussing on European law and economics – has a reputation as a talent pool that serves many European institutions. The European Master's (LL.M) programme 'European and International Law' attracts students from around the world to Saarbrücken. In 2015, the Europa-Institut was

awarded a European Certificate for Quality in Internationalization for its LL.M programme.

The **Centre Juridique Franco-Allemand (CJFA)** at Saarland University is the only university institution outside of France that is entitled to bestow a French law degree. As an educational and research institution for both German and French law, the CJFA is unique in Europe. Students from Germany and France study together at the CFJA and on graduating are awarded both German and French law degrees.

The **Frankreichzentrum** at Saarland University coordinates all

interdisciplinary contacts to France and to French institutions of higher education. It promotes the exchange of scholars, researchers and academics across all disciplines, helps doctoral students establish cooperative cross-border research networks and assists students looking to begin their professional career in France. The many and varied activities within Saarland University's core strategic area 'France and Europe' are pooled within the interdisciplinary platform **Collegium Europaeum Universitatis Saraviensis (CEUS)**. The resulting network is a driver for new interdisciplinary research projects.

Cross-border study and research is also a key objective of the **University of the Greater Region (UniGR)**. UniGR is a consortium of higher

education institutions that includes Saarland University, universities in Belgium, Luxembourg and France as well as universities in the German state of Rhineland Palatinate. Together they form a European Higher Education Area that offers a diverse range of study programmes and cooperative research projects. Students at each of the cooperating universities can enrol at no charge at the partner universities in order to attend specific courses, obtaining credits for academic work completed. Students of all faculties at Saarland University can work towards a supplementary qualification in European studies (**Zertifikat Europaeum**) that allows them to incorporate a specialist European dimension to their main programme of study.



Renowned research institutes associated with Saarland University



The Fraunhofer Institute for Non-Destructive Testing (IZFP) has close links to the materials science research work carried out at Saarland University.

Over the last few decades, practically all of the major scientific and research organizations in Germany have established on-campus or near-campus institutes that cooperate closely with the faculties and departments at Saarland University – a development that underscores Saarland’s position as a centre for science and research. In many cases, university scientific staff also hold key research positions in these institutes.

Researchers at the **Max Planck Institute for Informatics** are developing algorithms that allow 3D worlds and 3D simulations to be computed more quickly and more accurately or that enable the facial expressions and emotions of avatars to be expressed more naturally.

The Max Planck Society has also established a second institute in Saarbrücken: the **Max Planck Institute for Software Systems**, where scientists are working in such areas as language design and on analysing and modelling software systems.



Fundamental research in areas such as computer graphics and computer-generated imagery is carried out at the two Max Planck Institutes. The results of this work are being used to assist animation specialists in Hollywood.

Another major contributor to Saarland University's excellent reputation in computer science and information technology is the **German Research Center for Artificial Intelligence (DFKI)**.

Split among fourteen research groups, ten competence centres and six living labs, the DFKI scientists in Saarbrücken are working to develop product functions, prototypes and patentable solutions in the field of information and communications technology.

As one of three competence centres for IT security in Germany, the **Center for IT-Security, Privacy and Accountability (CISPA)** is directly supported by the Federal Ministry of Education and Research. The work performed at CISPA is focused on three core areas of IT security that are of key significance for the state, for business and industry and for consumers: security; responsibility within the worldwide web and privacy protection.



Schloss Dagstuhl – Leibniz Center for Informatics (LZI) in northern Saarland is another internationally highly respected institution. Every year LZI plays host to more than 3000 top scientists, junior researchers and industry users who come together to discuss and share ideas regarding their latest research findings.

The Leibniz Association is also represented on the Saarbrücken campus by the **Leibniz Institute for New Materials (INM)**. At INM, chemists, physicists, biologists, medical scientists, materials scientists and engineers work together to research the properties of materials and to develop new methodologies aimed at integrating new high-tech materials into everyday applications.

Materials science and technology is also the field in which the Fraunhofer Society – another major German research organization – is represented in Saarbrücken. More than 200 members of staff work at the **Fraunhofer Institute for Non-Destructive Testing (IZFP)** located on campus, where they address questions such as how the components used in railway systems can be subjected to in-service safety testing.



The second Fraunhofer Institute in Saarland, located in St. Ingbert, carries out research into **Biomedical Engineering (IBMT)**. The institute has a workforce of over 400 scientists, engineers and technicians, research students and student interns.

The **Helmholtz Institute for Pharmaceutical Research Saarland (HIPS)** completes the quartet made up of the four major German research organizations. The scientific staff at HIPS undertake research on natural products and how they can be chemically optimized for medical applications and on the biological barriers that influence drug delivery processes in the human body.

The Steinbeis Foundation is also represented on campus through its **Material Engineering Center Saarland (MECS)**.

KIST Europe – the only branch of the **Korea Institute of Science and Technology** outside of Korea – is based at Saarland University's Saarbrücken campus. The scientific staff at KIST Europe examine issues such as the environmental impact of chemicals and nanomaterials.

Technology transfer: From lab to market



The **Contact Centre for Technology Transfer (KWT)** connects regional industry and businesses with the academic research work being performed at Saarland University. KWT also helps scientists and scholars to protect and market their intellectual property. This is done in partnership with PVA, the patent utilization agency for the higher education institutions in Saarland.

KWT is also responsible for coordinating all activities relating to start-ups and spin outs. In addition to receiving general assistance and guidance on starting their own business, young entrepreneurs also profit from individual coaching sessions and low rental costs for business premises in Saarland University's Start-Up Centre. With the Start-Up Centre located centrally on campus, the graduate entrepreneurs have direct access to academic and scientific staff at the university. The Start-Up Centre was set up in 1995. By the end of 2014, more than 270 companies and around 1500 jobs had been created.

In 2013, Saarland University was recognized by the then Federal Ministry for Economic Affairs and Technology for the excellence of its 'Entrepreneurial Campus Saar' strategic concept. It was one of three universities in Germany to receive recognition as part of the ministry's '**EXIST Business Start-Up**' programme.



Engineers at Saarland University are developing sensor systems that are being marketed through a dedicated start-up that they created.

In the light of this recognition, Saarland University has continued to expand the support services and skills initiatives that it offers to young entrepreneurs. The university's 'Entrepreneurship, Business Start-ups and Innovation' unit has firmly anchored the subject in Saarbrücken's research and teaching landscape. For example, two junior professors – one from the Depart-

ment of Economics and one from the Department of Psychology – offer interdisciplinary courses on setting up and starting a new business. Students and research staff can also obtain the supplementary qualification 'Entrepreneurship' that has been designed to teach the business and financial basics needed to successfully plan and set up a start-up.

Saarbrücken – State capital of Saarland



With a population of around 180,000, Saarbrücken is one Germany's smaller state capitals. It's a pleasant, friendly city that's easy to navigate around. Another appealing aspect of Saarbrücken is that rented accommodation is relatively cheap.

Being situated so close to France, Saarbrücken is a city with a distinctly French feel – a place where “savoir vivre” is more than just a saying, especially in summer when tourists and locals alike are drawn to the numerous street cafés that line Sankt Johanner Markt. With its boutiques, bars, bistros and attractive baroque architecture, the market square is one of the most popular and picturesque places to meet in central Saarbrücken. The Nauwieser district (Nauwieser Viertel) is particularly popular with students. The area is home to a large number of small artisanal shops and boutiques, a lively arts scene and bars. Lovers of pubs and bars appreciate the fact that there is no official closing hour in Saarbrücken. The wide range of clubs and discos in Saarbrücken give partygoers and night owls plenty to keep them happy.

In summer, the grassy banks and beer gardens that line the River Saar attract young people looking to relax and unwind.



The Nauwieser Festival attracts plenty of students to this vibrant and dynamic part of Saarbrücken.

The river is at the focus of Saarbrücken's summer festival 'Saarspektakel' during which teams from Saarland University take part in the ever popular dragon boat races. Other summer events attracting thousands of visitors to the city are the Old Town Fair (Altstadtfest) and the Nauwieser Festival.

Saarbrücken offers a remarkably diverse range of cultural events. The university has a special agreement with the Saarland State Theatre

Company that allows students to watch productions free of charge in all four of the company's stages. Students can also attend all concerts given by the German Radio Philharmonic Orchestra in Saarbrücken at no charge. A bilingual programme of contemporary German-French dance and dramatic art is the focus of the summer festival 'Perspectives' and the annual Saar Music Festival is another major cultural highlight of the region.



Each year, the Max Ophüls Film Festival in Saarbrücken draws many thousands of visitors eager to see the latest productions by young filmmakers in Germany.

Film lovers have plenty to be pleased about in Saarbrücken. Every year in January, the city hosts the most important festival for young German-language film – the Max Ophüls Film Festival. The capital of Saarland becomes the place to be for up-and-coming directors, young actors and film lovers from Germany, Austria and Switzerland. As well as this major festival, Saarbrücken boasts a large number of cinemas, particularly smaller arthouse locati-

ons that offer a wide and varied programme all year round.

Students who want to explore the region can use their semester ticket to travel for free on buses, on the Saarbahn (Saarbrücken's light rail system) and on local train services. The Grand Duchy of Luxembourg and the French cities of Nancy, Metz and even Paris can be reached by train from Saarbrücken in only one to two hours.



Saarbrücken Palace also hosts scientific and academic conferences.

Homburg – Home to the Faculty of Medicine and the University Hospital

The Faculty of Medicine and the University Hospital are both located in Homburg. With a population of 41,000, it is the third largest town in Saarland after Saarbrücken and Neunkirchen. Local tourist attractions include the Schlossberghöhlen – the largest coloured-sandstone caves in Europe – that were dug out of the hills in twelve stages. Homburg is known for its festivals and markets, such as the arts and antique market

and the pottery and ceramics market. In the summer months, Homburg organizes numerous musical events that are performed in the town's historic marketplace, including jazz sessions every Saturday morning. There are also numerous interesting destinations around Homburg, such as the nearby Roman Museum in Schwarzenacker or the lakes and woods of the surrounding countryside.



The Saarschleife – an impressive meander made by the River Saar – is one of the most attractive sights in Saarland and the region attracts many visitors who enjoy hiking the local woodland trails.

Saarland – At home in the tri-border area

Over the past twenty years Saarland has undergone an astonishing transition. Several decades ago, the social and physical landscape of Saarland, which shares borders with both France and Luxembourg, was still characterized by heavy industry. Today, in contrast, the smallest of Germany's Länder (excluding the city states) has a very different look and feel. Industrial brownfield sites have been successfully reclaimed and restored and many now lie adjacent to old-growth forests. Walkers who climb the now re-greened spoil heaps can enjoy wonderful views of the surrounding countryside. Some may spot the former Völklingen Ironworks (Völklinger Hütte), perhaps the most important monument to

the industrial and social legacy of the coalmining and steel-producing industries that characterized Saarland in former times. Once one of the most modern industrial plants in Europe, the fully preserved ironworks became a UNESCO World Heritage Site in 1994 and attracts around 300,000 visitors each year. The site offers fascinating walks through the now decommissioned industrial plant and there are superb views from the viewing platform high up on the blast furnace. The site also provides an impressive space for the many exhibitions, concerts and performances that are held throughout the year.

But away from the industrial strip between Saarbrücken and Völklingen, Saarland shows itself from its



There are miles of scenic cycle routes in Bliesgau – a hilly area to the south-west of Saarbrücken.

more pastoral side. The landscape is shaped by woodlands, grasslands and the typical alluvial meadows that are dotted with fruit trees and lined with hedgerows.

A dense network of waymarked footpaths have turned Saarland into a popular holiday destination. Leisure and recreational facilities abound at Bostalsee reservoir. Destinations such as the picturesque Saarschleife near Mettlach, or Bliesgau, a designated UNESCO Biosphere Reserve, can be reached with ease.

The history of Saarland has been strongly influenced by the changing political status of the territory, switching affiliation on multiple occasions between Germany and France, as well as being autonomous for a

time. However, historical artefacts are known from much earlier periods. There are many archaeological findings from the Celtic and Gallo-Roman cultures that can be seen in the European Archaeological Park in Bliesbruck-Reinheim. Visitors to the fully reconstructed Roman villa in Borg can experience what life was like in this part of Europe during the time of the Romans.

Culinary and gastronomic culture are another important part of social life in Saarland, which is home to a particularly large number of award-winning restaurants.



St. Johanner Markt is centrally located in the pedestrianized area of Saarbrücken and is a popular place to meet in the evenings.

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