puren®

Innovations

‘With courage comes success.’ Theodor Fontane

Father and son are passionate about polyurethane.

Who would have thought that puren GmbH could trace its roots back to a group of regulars gathered in the traditional old Hotel Ochsen in Überlingen, Germany? A patron sat down to join the group of men and told them about his trip to the United States. There he came across a new material, which – if you take a layer just two centimetres thick, lay it down on ice and sit on it – gives you the feeling of sitting on an oven. Apparently it was called ‘rigid urethane foam’, or something like that.

Only one person in the group took any interest: Franz Bommer. He quickly realised this material had great potential. Following advice he was given, he then contacted a machine constructor, who knew that the material was produced from liquid components, enabling him to design a prototype machine. He rang his son, Hans – who was actually busy researching material for his dissertation as part of his degree in business administration – and asked him to research the new material and its potential applications.

Hans Bommer then learnt about the complexity of polyurethane rigid foam technology, as well as the opportunities and risks associated with it. He came to the conclusion that polyurethane rigid foam offered indeed some interesting perspectives for the future. Yet the technology, still in its infancy, was in need of significant improvements and markets had to be opened up for the product, which was virtually unknown.

His father, Franz, no longer wanted to take on the challenge on account of his age, so he appealed to his son to dedicate his time to the new material. After much careful thought and with the agreement of his professor that he would take a break from his dissertation for the time

Hans Bommer (r) founded puren in 1968 at the suggestion of his father, Franz Bommer (l). Having been at its helm for 44 years, he is still on the company’s advisory board today.

being, Hans Bommer decided to take a chance on the uncertain experiment. His father Franz had a prototype machine built at his own expense, and Hans – the businessman – proposed setting up a family-run limited company under the name ‘Puren Schaumstoff GmbH’.

On 15 January 1968, the time had come: the articles of association were signed. The company was entered in the commercial register a month later on 12 February 1968. That was 50 years ago.

Dipl.-Kfm. Hans Bommer

In the 44 years during which Hans Bommer was managing director of the company, puren grew to become a global enterprise group and now employs over 300 employees and is one of the leading companies in the field of polyurethane rigid foam technology with the economical and ecological practice of reusing polyurethane waste material (upcycling).

Hans Bommer founded a company for producing polyurethane rigid foam in China (Jinan, Shandong province) 22 years ago. This was followed ten years ago by the foundation of a joint venture company in Shanghai, China, with state-of-the-art production technology and dimensions suitable for China.

Hans Bommer was involved for many years in a number of important associations – many of them as chairman – including the Industrieverband Polyurethan-Hartschaum e.V. (industrial association for polyurethane rigid foam – IVPU) in Stuttgart, which he co-founded and in which he was active for over 40 years. He also took on an active

role as Chairman of the Board of Directors in the Güteschutzgemeinschaft Hartschaum (GSH) – a body monitoring the quality of work – in Frankfurt, and was appointed to the technical committee for foam materials by the Association of German Engineers (Verein Deutscher Ingenieure – VDI) in Düsseldorf.

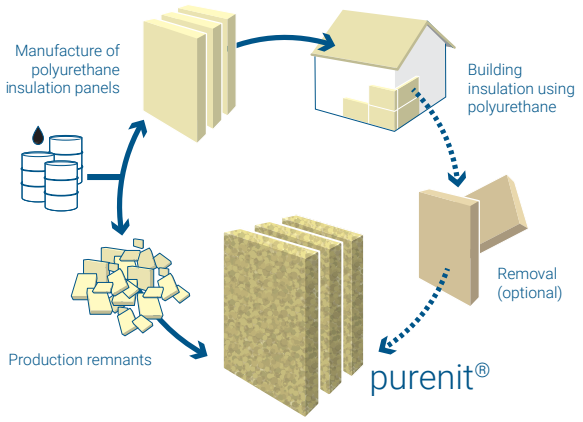
Hans Bommer has won numerous awards for his entrepreneurial activities:

- Order of Merit of the Federal Republic of Germany
- Gold business medal of the federal state of Baden-Württemberg
- Silver business medal of the federal state of Baden-Württemberg
- Honorary board member of the industrial association IVPU

In 2012 Bommer transferred sole management of the company to Dr Andreas Huther and joined the advisory board.

Dr Andreas Huther was born in Singen, Germany in 1972 and studied business administration at the University of Augsburg. His dissertation for his doctorate in social, political and economic science was awarded the science prize by the Swabian Chamber of Commerce in 2003 and a year later was awarded a prize by the Bayerische Landesbank. He became Managing Director at puren in 2008.

The puren sustainability cycle.



Sustainable development, right from the start.

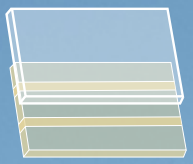
Here at puren, our aspiration is to use innovative products to save the energy needed for their production many times over. Back in the early seventies, puren was already able to use polyurethane to shape the energy revolution and create living spaces long before the topic of environmental protection and sustainability were even being discussed.

puren, its subsidiaries and business segments.

Even with a cultural monument, it’s what’s inside that counts.

Like the insulation under the roof.

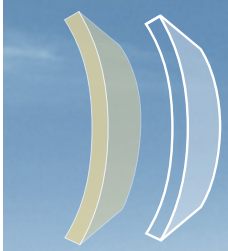
For a long time, the old warehouse district in Hamburg was the largest continuous warehouse complex in the world. Following extensive restoration, it became a World Heritage Site in 2015. The insulation in the roof plays a significant role in providing protection and energy efficiency for the now modern cultural and commercial centre. The high-performance tin-roof insulating elements and the vapour barriers and roofing membranes used to create an innovative roof structure were supplied by the puren subsidiary Endele. The products are still available today under the name of puren Metalfix.



It's the taking part that counts. Especially when you tower above all.

Our contribution to the Olympic tower.

It was the 1992 Summer Olympics in Barcelona. Franziska van Almsick won silver in the 200-metre freestyle and Dieter Baumann ran his way to gold in the 5,000 metres. Their events were transmitted all over the world via the Montjuïc communications tower, designed by the famous architect Santiago Calatrava. The Olympic tower in Barcelona is 136 metres high, took two years to build and is made to a large extent of reinforced concrete. The upper arch of the structure, which is suggestive of the Olympic torch, is made from a puren rigid foam developed specifically for the job. Custom-made with absolute precision at our plant in Überlingen. And it still towers above everything else in Barcelona.



Close the door, there’s a draught. You won’t hear that here.

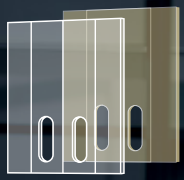
puren would like to wish you a pleasant journey.

It could get pretty draughty at 300 kilometres per hour. Unless the door has effective and innovative insulation. Preferably using high-performance materials from puren. As in the intercity express train ICE 4. Yet this innovative higher-density material not only provides excellent insulation. It also provides stability, even in complex door assemblies. And with minimal wall thicknesses, too. Everyone benefits: the passengers, who reach their destination in a pleasant atmosphere, as well as the railway company and its suppliers.

Your parcels are in the best hands.

Courtesy of puren.

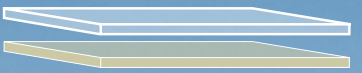
In logistics, every centimetre of load space counts. Every gram affects the fuel consumption – and every component affects the aerodynamic drag. Narrower, lighter, more energy efficient – these reasons were precisely why in 1985 Deutsche Post, the German postal service, consulted with vehicle manufacturers Daimler and Kögel and decided to use construction insulation materials from puren for the van bodies in their vehicle fleet. In that first order alone, we fitted 8,710 vehicles with our insulation materials, ensuring that your letters, packages and parcels arrive safely.



The Zugspitze is Germany’s highest mountain.

But the pinnacle is the insulation.

In the summer of 2017, the new cable car was inaugurated on the Zugspitze, breaking three records at once. At 1,945 metres, it spans the biggest height difference in the world. It has the highest steel support structure in the world, measuring 127 metres. And it features the world’s longest free span of 3,213 metres. And when the gondolas arrive safe and sound at the station at the top, they are in the highest building to be insulated with puren rigid foam. That’s our own personal altitude record.



Insulation where other people go on holiday.

The roofs of the Villino.

Exceptional food, beautiful rooms, a wonderful garden – and all in a delightful location in the town of Lindau on Lake Constance: this is the Villino, an exquisite hotel in the style of an Italian country house. It offers guests exclusive comfort and careful attention to detail that they feel, even if they do not see it. This includes the insulation on the roof, which uses puren Plus, significantly contributing to a healthy indoor environment. Carefully crafted, precisely fitted – our contribution for greater energy efficiency and sustainable leisure. The room acoustics are also especially innovative and unique here: the purSonic Soundboards – another brand in the puren Group – are invisible, integrated in the puren roof insulation system. You'd better book now.

This is what winners look like. Precisely because they are pretty passive.

Powered by puren.

The Solar Decathlon is an international competition run by the US Department of Energy. Only 20 universities are invited to present their solutions for energy self-sufficient homes in Washington DC in the United States. In 2007 the Technische Universität Darmstadt won with a passive house that was impressive not just thanks to the solar panels on the roof, but also with the fire-resistant sloped insulation from puren that was underneath it. The innovative building concept also includes the mounting strips – which are integrated in the facades – from our purenit functional material, which is also concealed in the frames of the quadruple-glazed wooden windows. And everything guarantees energy-efficient use of the solar energy generated by the house itself. A slice of the future all wrapped up.

The puren company philosophy:

Generating/saving energy and reducing the emission of hazardous materials and substances with insulation, heating and environmental technologies by developing innovative products.

Success and competence: accolades won by the puren Group.

1995 Energy Oscar – an environmental prize from the Vorarlberger Heizberater (association of heating consultants in the Austrian state of Vorarlberg), awarded to Bomat

1997 European Recycling Award, presented by Dr Angela Merkel (then Federal Minister for the Environment, Nature Conservation and Nuclear Safety)

2004 Innovation award from the Fachverband für Schaumkunststoffe FSK (German trade association for foam plastics)

2004 First prize in the innovation award from the state of Baden-Württemberg (Dr.-Rudolf-Eberle-Preis)

2005 Awarded the AIT innovation prize by the trade magazine for architecture and interior design, AIT

2007 Qualitec Award – awarded to the Kara Group of Italy at the Seatech trade fair in Carrara, Italy, for the innovative use of purSonic sound systems in luxury yachts

2013 Awarded the prize for product innovation by BAKA, the federal working group for the refurbishment of old buildings

2016 Named as a company on the project '100 Betriebe für Ressourceneffizienz' (100 businesses for resource efficiency) by the Ministry of the Environment, Climate Protection and the Energy Sector of Baden-Württemberg for its ecological, innovative and viable sustainability concept

'Progress is the realisation of ideas.' Oscar Wilde

A thank-you.

We owe the successful development of the puren Group to the cooperation – based on understanding, continuity and trust – and solid partnerships that we enjoy at all levels of our work. This applies to our customers, business partners and suppliers, past and present, who lend us their support with expert advice and suggestions. And it applies to our employees, whose hard work, commitment, active involvement and comprehensive expertise have been crucial for the consistent growth of the Group.

We are grateful to all those who, as a result of their achievements and their personal commitment, have become the mainstay of puren.

Our sincere thanks go out to all of you.

An eye on the future.

Failing to look anywhere but backwards is not a good business model for the future. Yet it does gives us the courage to venture into new territory. That's why we want to continue to work with commitment, innovative strength and reliability for the benefit of our customers. We intend to continue to place humanity, based on the values of respect and dignity, at the heart of what we do.

With courage, creativity and new projects, we will continue the puren company history and shape the future.

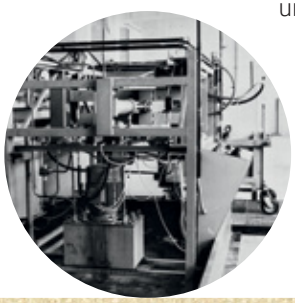
Dr Andreas Huther
Managing Director

Dipl.-Kfm. Hans Bommer
On behalf of all shareholders

1968

Foundation

On 15 January 1968, the articles of association drawn up by Hans Bommer are signed, thereby founding Puren Schaumstoff GmbH. The company is entered in the commercial register on 12 February 1968.



1969

First small-batch series

Multiple moulds have to be built due to the two-hour mould dwell time. At the same time a marketing concept also has to be created and implemented for the largely unknown material.

1970

Choosing a site

Hans Bommer gets involved in initiating the development of the Nord 3 industrial estate in Überlingen as a possible future site for puren. The same year leasing of additional production spaces and expansion of production capacity using larger moulds measuring 0.5 × 1 m × 2 m occurs.

1970

Environmental Protection department

An Environmental Protection department is set up on the basis of the previously mentioned environmental protection products.

1968

1968

A kind of workshop

Development of formulations and machines, as well as initial attempts at producing polyurethane rigid foam blocks measuring 0.5 × 0.5 × 1 m in a kind of workshop (approx. 150 m² and two members of staff).

1970

1970

ÖI-Ex is developed

A highly effective polyurethane-based oil binder called 'Öl-Ex' is developed for combatting oil damage on lakes and rivers (suitable for drinking water, without any toxic effects for fish). Virtually at the same time, Öl-Ex panels and purenit panels are made from polyurethane remnants, and insulating and emission control panels made from material from scrap tyres (buffings) are developed and manufactured.

1972

Technological breakthrough

Mould dwell time is reduced from two hours to ten minutes. At the same time, the company succeeds in developing an expanded polyurethane rigid foam panel, gaining puren major recognition in the market.

1972

Breakthrough in large-format production

Formulations and technologies (machines) are developed for the production of polyurethane rigid foam blocks measuring 0.6 × 1.5 × 5 m in a batch process with a mould dwell time of ten minutes, which has never been achieved by anyone before.

1974

Innovation of flame-resistant polyurethane large blocks

The first technologically successful production of flame-retardant polyurethane rigid foam using a large-block batch process takes place with a considerable market impact.

1972

1972

Arch components

Arch components for construction using the deposition method (polyester–polyurethane–polyester) are developed and manufactured with support from Bayer AG.

1972

New factory workshop

Realisation of the buildings planned in 1971 (roughly 3,500 m² of halls plus energy centre and administration building) in the new industrial estate Nord 3 in Überlingen.

1973

PUR
Der Hochleistungs-Dämmstoff

1973

IVPU is founded

Co-founder of the Industrieverband Polyurethan-Hartschaum e.V. (industrial association for polyurethane rigid foam – IVPU) in Stuttgart.

1974

Major order from Bosch-Siemens

Development and production of dishwasher panels for Bosch-Siemens on a scale of approximately 20,000 pieces per month.

1976

New production facility

Construction of a continuous production facility (twin belt) for the manufacture of polyurethane rigid foam panels with flexible facings.

1985

Lightweight postal delivery vehicle concept

A concept is developed for a new, lightweight postal delivery vehicle, which is implemented in close collaboration with vehicle manufacturer Kögel for large-scale production. Initial order of 8,710 vehicles.

1976

1980

First continuous production line

The first continuous production line is commissioned for the manufacture of large polyurethane rigid foam blocks.

1987

Advisory board is set up

A deciding advisory board is set up, consisting of three members.

1987

CFC-free production

Development of CFC-free PUR and PIR rigid foams.

1989

Wiesloch site

Staff from Tonwarenwerke AG in Wiesloch are transferred, and a sales office with a warehouse is created.

1987

1988

Abtsgmünd site

Aprithan Schaumstoff GmbH in Abtsgmünd is acquired; the company's production facilities and staff are taken over.

1990

High-tech elements innovation

High-tech elements made from high-density polyurethane rigid foam are developed and produced for the European Transonic Windtunnel, which features temperatures of -196°C and wind speeds of Mach 1.3.

1990

Investment in Proinnova

Shares in Proinnova GmbH in Neuenhagen (greater East Berlin area, Brandenburg, Germany) are acquired.

1991

Innovation of large formats

Large-format polyurethane elements with a high bulk density are developed and produced, which are used for the construction of the Olympic tower in Barcelona. A year later, the same technology is also used to build large radomes.

1990

1990

Obermarchtal site

Land, foaming machines and facilities are acquired, staff from Endele Kunststoff GmbH are taken over, and a new Endele Kunststoff GmbH in Obermarchtal is formed.

1991

Neuenhagen site

Polydämm-Schaumstoff GmbH is founded in Neuenhagen with the aim of producing polyurethane rigid foam.

1991

CFC-free

Transition from PUR/PIR rigid foams containing CFC to CFC-free PUR/PIR rigid foams in Überlingen.

1991

1992

Expanded portfolio of expertise

Shares are acquired from Bomat Heiztechnik GmbH in Überlingen, one of the pioneers of the industry thanks to forward-looking developments by Rolf Bommer, a certified engineer in the field of efficient condensing boiler technology.

1993

25th anniversary

A new administrative building is constructed in Überlingen for the company's 25th anniversary.

1993

Neuenhagen opening

Grand opening of the production plant in Neuenhagen in the presence of the Environment Minister Platzek and integration of Polydämm GmbH into Proinnova GmbH.

1993

purenit production plant in Obermarchtal

A production facility for manufacturing purenit from polyurethane remnants in rented premises of the former Endele timber plant in Obermarchtal is constructed.

1995

Press and Public Relations department

Company communications are expanded by setting up a press office to increase the prominence of the company.

1997

Specialist products for pitched roofs

Another twin-belt facility is installed in Obermarchtal for the manufacture of specialist products for the pitched-roof sector.

1997

Joint venture in China

A joint venture company is established in Jinan, China, for the purpose of setting up batch polyurethane foam block production for manufacturing refrigerated vehicles.

1993

1993

Further development at Abtsgmünd site I

A new administration building is built at Aprithan in Abtsgmünd and the warehouse Ost I is constructed.

1997

1997

Further expansion at Abtsgmünd site II

The warehouse Ost II at Aprithan, Abtsgmünd, is constructed.

1999

Production expansion in Überlingen

The production hall is extended for the construction of a new twin-belt facility, and the raw materials warehouse is upgraded, including tank pits and a raw material discharge station, in Überlingen.

2000

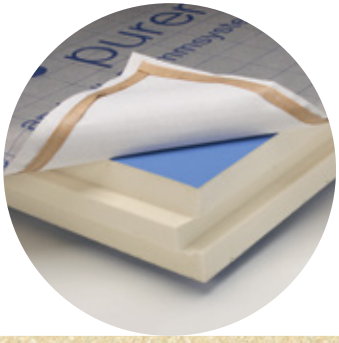
Expansion of Abtsgmünd site III

Neighbouring land at Aprithan is acquired and the hall Ost III is constructed.

2004

Production is expanded in Abtsgmünd

Investments are made in a new, large twin-belt facility at Aprithan for manufacturing PUR/PIR rigid foam boards with flexible facings.



2000

2003

Innovation of invisible wall and ceiling loudspeakers

Invisible speakers are developed and produced at the Überlingen site under the name ‘purSonic’. (Collaborative project between puren, Siemens and Bayer).

2005

New sales organisation

The sales organisations of the subsidiaries producing polyurethane rigid foam are integrated into the puren sales organisation.

2005

Planning for a new production plant

The planning for a large, new factory in Obermarchtal takes place for producing purenit panels on a specially designed, experience-based production line. Start of production in 2008.

2005

2005

Relocation of production for pitched-roof products

Relocation of production for pitched-roof products from Endele to Aprithan after a major fire at Endele.

2007

New headquarters for Bomat

Bomat moves into modern, newly built company headquarters at Zum Degenhardt 49, Überlingen.

2007

New joint venture in China

A new joint venture company in Shanghai, China, is formed and the planning for a production facility for the continuous production of PUR/PIR rigid foam blocks takes place.

2007

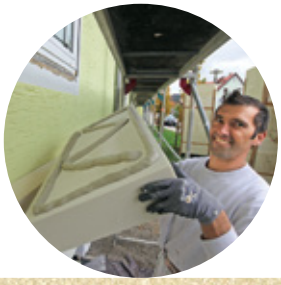
Plant expansion in Überlingen

Expansion of a production hall and warehouse for the installation of a new, continuous polyurethane rigid foam large-block facility in Überlingen.

2009

New ETICS business division

Sales activities in the field of external thermal insulation composite systems (ETICS) are intensified following extensive real-life testing with over 500 completed properties.



2009

Start of production in Shanghai

The large-block production line is brought into commission in the joint venture company in Shanghai, and puren exits the joint venture company in Jinan.

2010

Further development at Überlingen site

A new block-trimming line, de-stacking system and sanding machine are constructed, and the manufacturing and ETICS coating system with upstream cross-cut saw and profiling station are optimised in Überlingen.

2007

2008

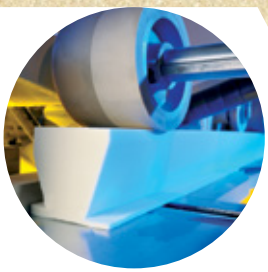
Expansion of sales activities in central and eastern Europe

A sales office is set up in Budapest, Hungary, to support markets in the Czech Republic, Slovakia, Slovenia, Hungary, etc.

2008

New member of the executive board

Dr Andreas Huther joins puren gmbh as a member of the executive board.



2010

Further development at Abtsgmünd site

A production hall for the second processing line is constructed with adapted infrastructure at Aprithan.

2009

2011

Expansion of Obermarchtal site

Additional land adjoining the existing plot is acquired in Obermarchtal.

2011

Bomat heat exchangers for biogas

The development and market launch of a heat recovery system for biogas plants takes place.

2012

Expansion of Abtsgmünd site

A new, large warehouse at Aprithan is constructed and an adjacent plot of land is acquired.

2013

Expansion of Überlingen site

Capacity is expanded at the raw materials warehouse for the twin belt and a major expansion is planned at the puren site in Überlingen (plant III).

2014

Widening the shareholder circle

The 'young generation' is added to the group of shareholders.

2011

2011

Expansion of Überlingen site

Adjacent land to the south-west is acquired for the expansion of puren in Überlingen.

2012

A change in management

After four years of working together as joint managing directors of the company, Hans Bommer transfers sole management of puren gmbh to Dr Andreas Huther on 31 May 2012 and joins the advisory board.

2013

2014

Plant modernisation at Überlingen and Obermarchtal

The planning work and construction of energy-efficient production halls and warehouses in Überlingen begins, together with the installation of state-of-the-art extraction and silo technology with briquetting equipment for the processing of remnants at the Obermarchtal plant.

2015

Structural components for ultra-low-energy construction

puren high-performance insulation products are integrated in innovative prefabricated concrete components.

2015

Inauguration of Überlingen plant III

Inauguration of plant III takes place – with the first energy industry forum for the Lake Constance region in the newly built puren premises. The halls are constructed according to the energy-efficient KfW-70 standard.

2016

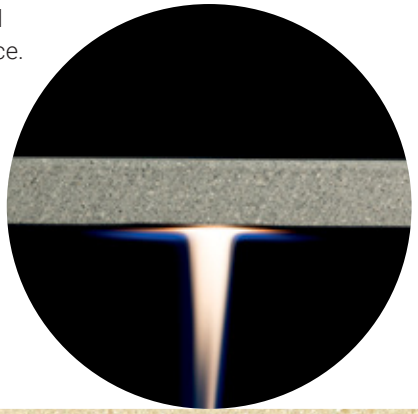
Optimisation of the ETICS and pitched-roof production facilities

The technical optimisation of the production facilities for the manufacture of insulation elements and systems for ETICS and pitched roofs takes place.

2017

purenit flame retardant

A flame-retardant product version of the functional material purenit is developed.



2017

Now available for underground car parks, too

The first installation of the new flame-retardant insulation elements for underground car parks takes place.

2015

2015

puren Ökonomic

The market launch of an innovative insulation system for renovation projects for pitched roofs takes place.

2016

Flooding in Abtsgmünd

There is downtime in production due to flooding at Aprithan and damage to machinery, equipment and supplies is substantial. Thanks to commendable commitment from staff, the damage is able to be rectified within 14 days.

2018

2017

puren Secure

A new and innovative flat-roof insulation element with flame-retardant properties.

2018

50th anniversary

And the success story continues. We would like to thank all those who have contributed to our success.

Fifty years

1968–2018