

Setting the *Standard*



Company *Profile*

Brüel & Kjær 

*"Sound and vibration is all around us.
It penetrates every aspect of our
everyday world. Our challenge is
to keep it from affecting the quality
of our life."*

Mr. Svend Gade, Associated Professor, *Brüel & Kjær University*





THE SOUND & VIBRATION EFFECT

Hustle and bustle is a major part of our daily lives. As a natural consequence of modern society's frenetic manufacturing, transportation and communication activities, sound and vibration affects all of us and our environment. It affects the safety of our vehicles, the construction of our buildings and the level of noise at home and at work. Our escalating demands for safety and physical well-being mirror our increased awareness of the effects of noise and vibration.

The car that you drive to work each day will have been extensively tested to make sure it can withstand the mechanical shocks imposed on it. Likewise, any safety equipment, such as airbags, will make good use of vibration transducers to act as critical sensors that signal danger and trigger appropriate action. And, thanks to careful sound analysis, the sound that the car door makes when you close it will be a solid, reassuring thud – telling you that you have a sturdy protective layer around you.

The noise that your car makes will also have been analysed to make sure that it does not spoil the environment of those around you. There are many other examples of how sound and vibration affects all of us, such as the noise of planes flying overhead, how quiet or noisy the dishwasher is, the noise that your neighbours make, or how tiring it is to use the lawnmower.

It is fortunate then, that in every sector of industry, in every part of the scientific community and in all aspects of our daily lives there are people who dedicate their working lives to sound and vibration, controlling its harmful effects.

With over 60 years' experience Brüel & Kjær equips you with the know-how, the products or the complete solutions you need to explore the nature of sound and vibration – thus allowing you to create better products and ultimately a better quality of life.

MISSION

It is our mission to help our customers improve the quality of sound and vibration and human comfort related to sound and vibration. In this way, we enhance the environment, the quality and the joy of life.

VISION

It is our vision to be the preferred partner and solution provider to all leading companies and institutions who care about sound and vibration, and be the global competence centre for sound and vibration.





"Brüel & Kjær's name stands for outstanding quality, reliability and accuracy."

Mr. Jim Thompson, Ph.D, PE, NVH Sales and Marketing Executive Director, Link Engineering

PIONEERS & INNOVATORS

Brüel & Kjær is part of UK-based Spectris plc, a specialist process technology company that focuses on industrial electronic, process instrumentation and filtration systems.

Since 1942, Brüel & Kjær, with its Headquarters in Denmark, has been the industry pioneer and leading innovator in sound and vibration measurement, offering a full range of hardware and software products covering almost every application in the field. With a 1000 employees, more than 90 sales offices or local agents in 55 countries, and eight accredited calibration centres worldwide, Brüel & Kjær provides immediate customer support.

Brüel & Kjær calibration is accredited by DANAK, the Danish Accreditation body controlled by the National Agency of Industry and Trade, thus fulfilling the requirements of ISO and

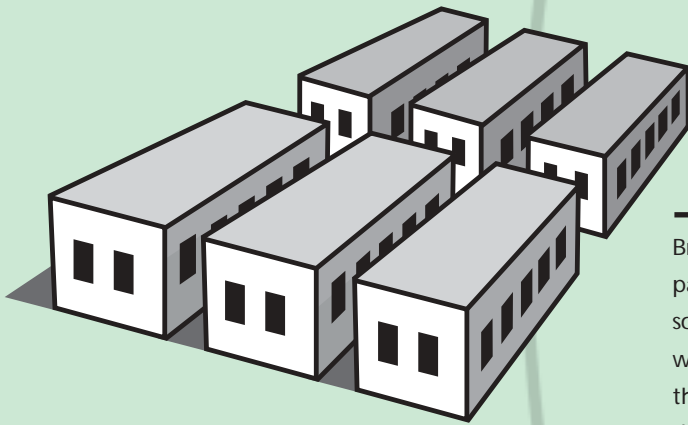
other standards. In addition, Brüel & Kjær Denmark has been appointed the Danish Primary Reference Laboratory for vibration and acoustical parameters by the Danish government.

The key to our success is the combination of our innovative and talented employees and effective knowledge management. We set ambitious goals and meet our commitments and maintain our high standards through dedicated teamwork and effective delegation of responsibility.

Brüel & Kjær is an ISO 9001 certified company, and houses over 100 engineers involved in research and development. A considerable part of our sales profits is re-invested in new R&D projects, keeping us at the forefront of technological development.



THE PERSONAL TOUCH – AROUND THE WORLD

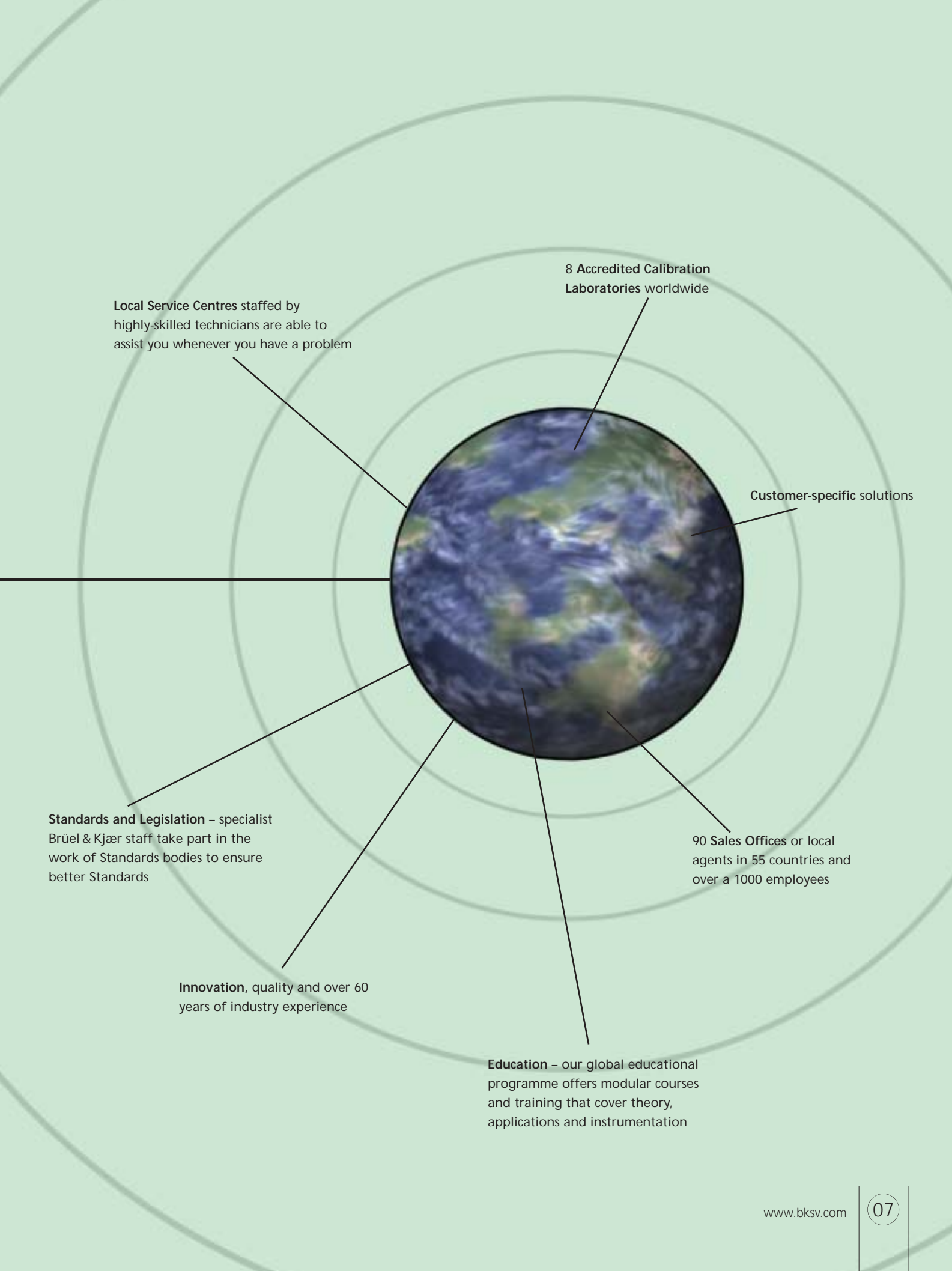


"All our expectations, throughout more than 33 years of collaboration with Brüel & Kjær, have been fulfilled."

Señor Plácido Perera, Acoustic Control Unit Chief, Environmental Quality Department and the Acoustic Control Unit, Madrid City Council

Brüel & Kjær is undoubtedly a global company. In fact, we probably have the largest sound and vibration sales network in the world. But it is precisely this globalism that allows us to think and act locally, due mainly to 500 of our employees working within local sales, service, and support worldwide.

We're never further away than your local sales representative or service centre, so help is always at hand and in your local language. Product documentation is also often available in several languages, and we regularly hold local courses, roadshows or participate in local exhibitions.



Local Service Centres staffed by highly-skilled technicians are able to assist you whenever you have a problem

8 Accredited Calibration Laboratories worldwide

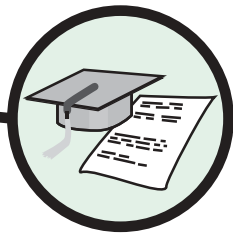
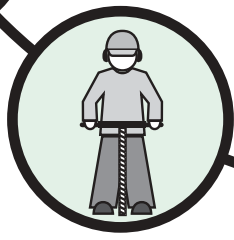
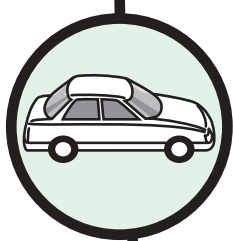
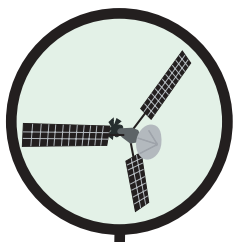
Customer-specific solutions

90 Sales Offices or local agents in 55 countries and over a 1000 employees

Education – our global educational programme offers modular courses and training that cover theory, applications and instrumentation

Innovation, quality and over 60 years of industry experience

Standards and Legislation – specialist Brüel & Kjær staff take part in the work of Standards bodies to ensure better Standards



CUSTOMER FOCUS

Our customers are as diverse as our products and stem from a wide range of industries that include automotive, aerospace, consumer goods, telecommunications as well as national government agencies. We help them solve a long list of sound and vibration problems – from building acoustics to structural dynamics.

Many of our customers' industries are fiercely competitive. New products have to be delivered faster, have to be safer, more reliable, have to sound better, and have to be more comfortable while keeping costs down. Manufacturers also have to be able to deliver precise specifications for their products' noise levels as new and rigorous national and international standards and legislation are introduced. Customer feedback is all-important to us – so by listening to, and working closely with our customers we develop with their needs foremost in our minds.

So, whatever the application, whatever the requirements, measurements of great precision and accuracy are paramount.

"We gave the details of our testing needs to Brüel & Kjær and they quickly offered us exactly what we wanted."

Mr. Bob Kunz, Director, Test Development,
Flextronics Test, San Jose, California

"We needed a powerful, reliable, and easy-to-use airport noise and track monitoring system, that would be an efficient tool in improving our environmental policy. We chose the Brüel & Kjær solution."

Mr. Alain Russel, Airport Manager,
Strasbourg International Airport

"We see it as a major advantage to have an overall contact point for NVH applications and expertise."

Mr. Ermanno Brughera, Flight Test Supervisor, Aermacchi

"Knowing that the data is accurate and repeatable not only gives us confidence but also our customers. The need for testing is constantly increasing and there's no doubt that we'll invest in further Brüel & Kjær solutions."

Mr. Kirk Doane, Test Engineer, Release Engineering, TI Automotive



We focus on our customers' needs, helping them to maintain their competitive edge through research, troubleshooting, quality control and regulatory compliance. With a wide product range including transducers, a full range of hand-held sound level meters, analyzers, systems, service products and customised solutions, we are able to supply our customers with all they need.

Different customers, require very different products or systems. Some check that the wing of an aircraft will not succumb to physical stress, others measure the effects of impacts on vehicles and their occupants.

To help our customers achieve their goals Brüel & Kjær provides complete solutions for their varied applications – from acoustic performance testing, sound power, pass-by noise, telephone testing, sound quality and quality control, through environmental noise measurements and noise field mapping, to rotating machinery, structural dynamics and vibration testing.

By creating better products, our customers are, ultimately, creating a better quality of life – whether it be by contributing towards a quieter working or living environment, providing safer transport, better product performance, or a better sounding appliance.

"We have successfully used Brüel & Kjær transducers for more than 10 years and it is natural for us to work together."

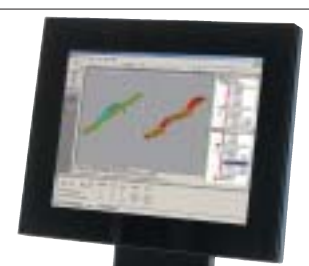
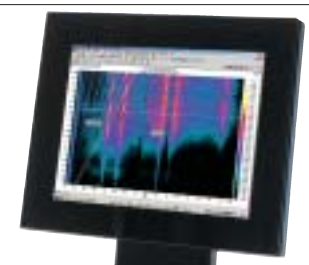
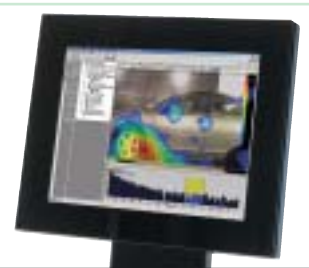
Dr. Luc Delage, Group Manager of NVH Bench Testing, Engineering Services, Bosch

FROM A SINGLE PRODUCT TO A COMPLETE SYSTEM

With 3000 products and solutions for sound and vibration measurement and the industry's largest sales force, we can provide all sound and vibration industries with the right solution and back it up with unmatched after-sales support. And all from one supplier!

We deliver advanced technology, unsurpassed quality and pay careful attention to every detail in the measurement chain. This has, in part, been made possible by strategic alliances that enable us and our partners to find newer and more efficient ways for our customers to improve their products' quality and stay at the cutting edge of competitiveness. Technology has no limits – if our customers can imagine it, then we can develop it.

Our success is also due to our constant eagerness to improve. We have already managed to drastically reduce turn-around time from order to delivery, and we have introduced a concept called Quality Circles. Based on customer and staff feedback, quality issues are evaluated and, if necessary, rectified or improved upon. This ensures that we provide our customers with ultimate service and the most efficient solutions.





CONTINUOUS *DIALOGUE*

We understand that ours is not just a manufacturing but a service business. Our commitment does not end when you buy a product from us. We value your custom and feedback and feel responsible for keeping you up-to-date and up and running!

Software Maintenance Agreement: As manufacturers of PC-based measurement systems, we know that software is of prime importance. As a result, we are continuously improving our software and including these improvements in new releases. A Software Maintenance and Upgrade Agreement gives you access to the latest news and software releases from the Brüel & Kjær family of software applications, with new features, improved functionality, bug fixes and error corrections. It also gives you access to technical application support from our worldwide service network.

Service: Our products come with a service period of at least 5 years after the end of production, such is their reliability, quality and robustness. Our Service Centres around the world are staffed by highly skilled technicians who have the ability and expertise to help you whenever a problem occurs.

Calibration: Increasing focus on quality standards such as ISO 9001 has forced a strong market demand for calibration and test services. We offer a comprehensive range of calibration services at our eight, professionally staffed, accredited calibration laboratories around the world. Our calibration procedures are developed by experienced engineers with extensive knowledge of Brüel & Kjær products. The resulting services guarantee fast and efficient calibration that is traceable to national and international standards. We also have the expertise to calibrate not only Brüel & Kjær equipment, but also instruments and transducers from other vendors.

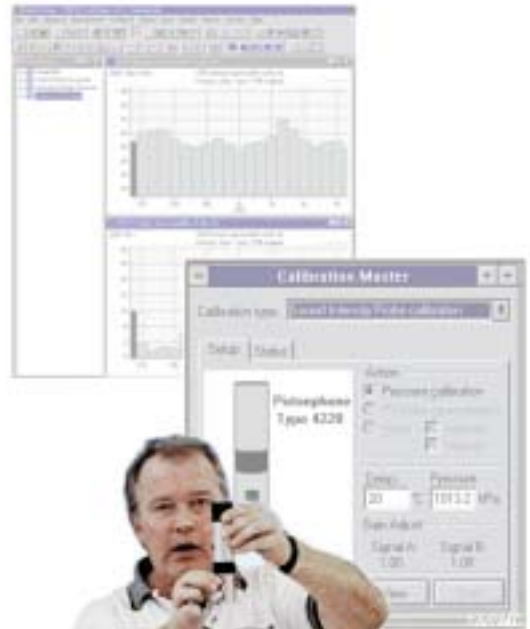
Support: Our commitment to you also includes on-site installation, customer-specific on-site training based on your particular application, and access to our Hotline where all your queries are dealt with.

One of our most valuable assets is the knowledge and expertise provided by our staff. This allows us to offer a customer support philosophy that mirrors our total solution product strategy with development and support function to cover every link in the support chain.



Pulse Intensity Measurement

- Measurement
 - Ordinary or 3D Probe
 - Remote control unit
 - Both on stationary and portable Pulse
- Calibration
 - Pressure & Intensity
 - Step by step guide
- Functions
 - FFT or CPB based
 - 1/1, 1/3, 1/12, 1/24 oct.
 - Pressure, Intensity, Complex Intensity, Mean Pressure, Velocity, PI-Index



Pulse S11

Brüel & Kjær

Dr. Majid Salooki

Iran



WEALTH OF EXPERIENCE AND KNOWLEDGE

"Brüel & Kjær are synonymous with reliable results."

Dr. Saemann, Continental

Knowledge and experience go hand-in-hand and we have accumulated over 60 years' worth. Precise, accurate and reliable measurements require instruments with the performance and quality to match and all our products are thoroughly tested, often in the harshest environmental conditions.

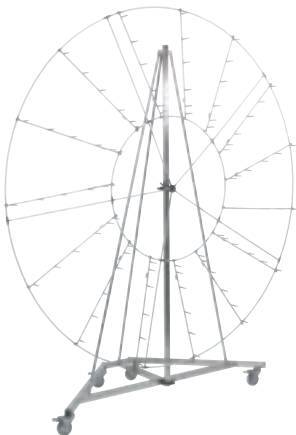
Furthermore, many of our employees are world-renowned experts in their respective fields and are often asked to speak at seminars and conferences, to advise on new international Standards, etc. As a result of this expertise we have been able to establish our knowledge centre, the Brüel & Kjær University, from which we build and spread sound and vibration related knowledge worldwide by means of seminars, advanced courses and product training within a broad range of applications, theories and products.

We also offer a supplementary and comprehensive variety of technical literature ranging from Product Data to reference books that help you to understand the applications, the products and the theory behind sound and vibration measurements. Most of this literature is available not only as printed matter but also in electronic form on our website www.bksv.com.

We believe that extremely high standards are met in all aspects of our product and service provision, as reflected in our status as an ISO 9001 certified company.



BACK TO THE BEGINNING




It all started back in the early 1940s, when two enterprising young Danish engineers, Per V. Brüel and Viggo Kjær, laid the foundation for a company that would not only come to lead the world in precision instrumentation for acoustics and vibration measurement, but indeed would play a very major role in the development of acoustics and vibration sciences themselves.

Since the beginning we've been in the business of innovation – from the Heterodyne Analyzer to the first Multi-analyzer and the first Non-stationary STSF system. We're proud of this tradition and continue to develop and face the challenges posed to us by our customers.

Keeping the momentum of innovation going is a challenge. Our success in this area is a combination of our R&D teams' successful efforts in keeping abreast of the latest technology, and our working closely with customers and partners in research projects that develop new technologies and models to improve the quality of sound and vibration.

We're part of the Sound Quality Research Unit (SQRU) and study the way sound is perceived by the human brain and how this knowledge can be used to improve the environment and quality of products. We're also working alongside major global automotive suppliers and European aerospace companies, in projects such as the EU Silencer project to reduce jet engine noise levels.

By actively getting involved, and broadening our own outlook, knowledge and understanding, we strive to remain our customers' preferred partner and contribute in the way we know best to improving the quality of life.



"If we continue to work together, listen to each other and develop alongside each other, then we have the key to safeguarding the environment and the quality of life."

Mr. Svend Gade, Associated Professor, *Brüel & Kjær University*

Brüel

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Local representatives and service organisations worldwide

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