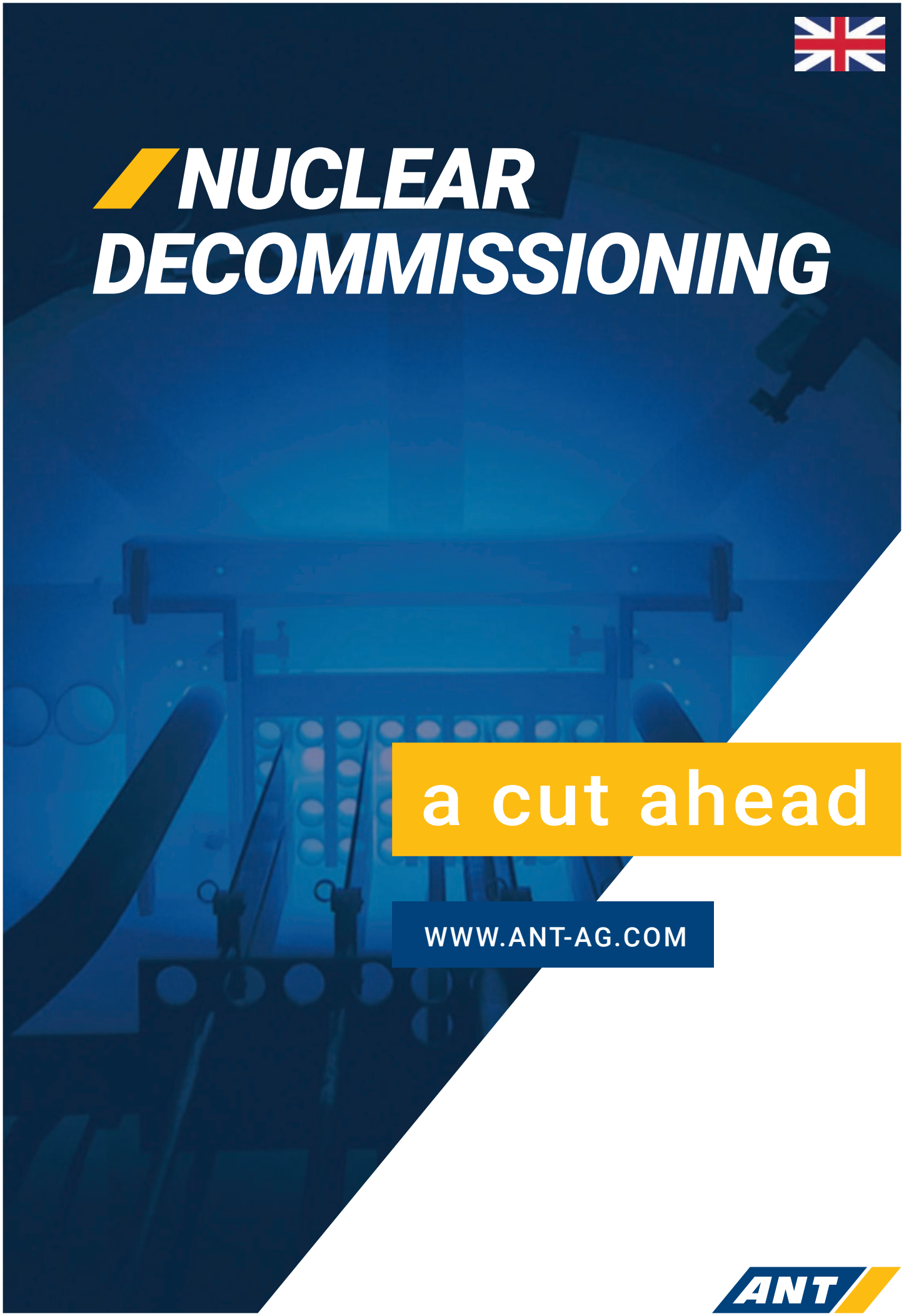


NUCLEAR DECOMMISSIONING

a cut ahead

WWW.ANT-AG.COM

SAFELY IN SENSITIVE AREAS

THE ANT SOLUTION

ANT manufactures products for safe and efficient working in the sensitive area of nuclear power plans and for treating nuclear waste.

Dismantling nuclear power plans is always a controversial topic. Since 1996 this topic has been a focus for ANT too, as it was 1996 when we started to work in this area. Since then we have been developing special machines of all kinds - from cutting tools for dismantling reactor pressure vessels, to samplers for radioactive fluids and waste treatment systems. Our years of experience, reputable clients and due care make us your ideal partner.

WAS technology has proven to be especially safe and effective for the dismantling of reactor pressure vessels, control rods, heat exchangers, large scale assemblies and other components of nuclear power plants. The advantages over other separation technologies are the particularly high performance (cutting up to 1,000mm steel), the small construction of the cutting nozzles, and the high flexibility in relation to complex geometries.

The solutions that ANT has developed for the nuclear industry are based on extensive experience from numerous projects. These are realised in accordance with specific regulations and in compliance with our clients, authorities, and experts.

APPROVALS AND QUALIFICATIONS

- Approval pursuant to § 15 Radiation Protection Ordinance (StrlSchV)
- Reliability-tested, radiation-exposed personnel, category A
- Radiation Protection Officer (radiation protection expert)
- Breathing apparatus carriers G 26 groups II and III › Marking transfer certificate (agreement with TÜV Nord)
- Qualified person for pressure vessels and pipes in accordance with Industrial Safety Regulation
- Quality management in accordance with ISO 9001: 2015

TÜV NORD
TÜV NORD CERT GmbH
DIN EN ISO 9001

MADE IN GERMANY
ANT QUALITY

ANT

ENSURING SAFETY IN USE

+ DISMANTLING NUCLEAR POWER PLANTS

ANT first got involved in nuclear technology in the mid 1990s. It all started with an order to develop a cutting system for dismantling the test nuclear power station Kahl.

The cutting system for dismantling the test reactor and its installations had to be based on ANT's technology of water abrasive suspension (WAS) cutting and remote-controlled cutting modules. The solution specially developed for this reactor had been adapted from technology that had been tried and tested many times in separating operations in the control area of nuclear power plants with high-performance reactors. For tasks on which other cutting technologies offered more benefits, we developed and manufactured cutting modules using mechanical or thermal separating methods.

ANT's individual remote-controlled cutting modules have been proving their worth for many years. They are extremely efficient and reliable when dismantling reactor pressure vessels, core vessels, their installations and other power plant components. Remote controlled manipulation allows you to work safely in the control area above and below water. In addition to turnkey cutting systems, we also supply grippers for lifting and packaging the separated segments and water purification plants for working under water.

+ WASTE MANAGEMENT

ANT develops components for treating and handling nuclear waste. During the design phase, we focus on ensuring that these can be integrated easily into existing or new treatment systems. Integration capacity, degree of automation and plant safety parameters are optimised in line with applicable statutory regulations and the client's economic interests.

When moving and handling nuclear waste, a key focus is on ensuring our clients experience an efficient and fault-free process flow. In terms of component individuality, the ANT team offers our clients the flexibility that they need.

ANT components are used in conditioning, vitrification and cementing plants. Many other areas have also benefited from our tailor-made solutions.

The core technology results developed by ANT are based on sound technical knowledge. Long-term relationships are testament to our trusting cooperation with clients and operators.

SUCCESSFUL CUTTING WITH HIGH FLEXIBILITY

BE SURE OF AN INDIVIDUAL SOLUTION

Stefan Filter, Engineering Manager at ANT:

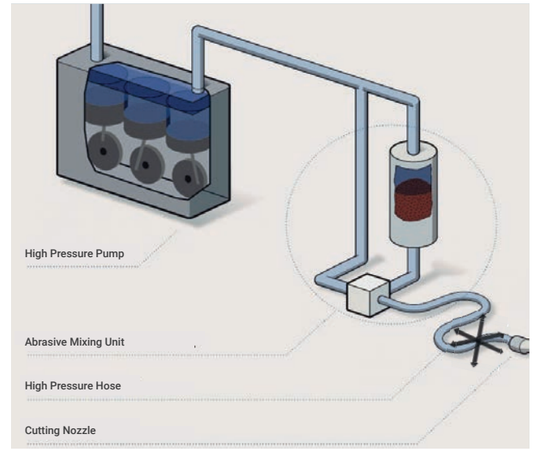
"Heat build-up, excessive material abrasion, deformation, huge space requirements or the release of aerosols are all unwanted negative implications of conventional cutting techniques. However, you can avoid all of these issues with our systems, all thanks to the Water Abrasive Suspension (WAS) cutting process developed by ANT and ready for the market. Industrial companies and nuclear power plants, for example, can benefit from our engineering in hardware and software around this technology – including in explosive and contaminated atmospheres as well."

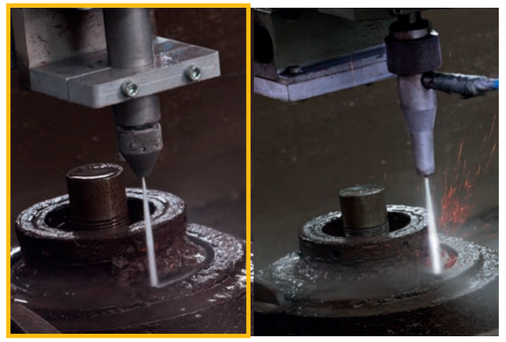
If you have any questions, we will be happy to provide you with further information.

THE WAS TECHNOLOGY - UNIVERSALLY APPLICABLE AND COST EFFECTIVE

ANT's Water Abrasive Suspension (WAS) cutting process involves cutting using a high pressure water jet and a sharp-edged abrasive agent – preferably garnet sand. The different pressure ratings and nozzles are tailored specifically to the material to be separated. Pressure of up to 2500 bar, which is pressed through a hard metal nozzle of between 0.5 and 1.3 millimetres in diameter, is currently possible. This means that even high-strength steels and reinforced concrete up to a metre thick, as well as a variety of other tough-to-cut materials and sandwich structures can be cut in a safe, environmentally friendly and cost effective manner.

Our WAS cutting process is certified by the Federal Institute for Materials Research and Testing (BAM) for work in explosive atmospheres.





Comparison of ANT water abrasive suspension jet (left) & traditional water abrasive injector jet (right)

BAM

ANT

A CUT AHEAD

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References

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