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Supplement of

Explanations for the development of a novel universally inside pipe separator for dismantling (contaminated) pipelines

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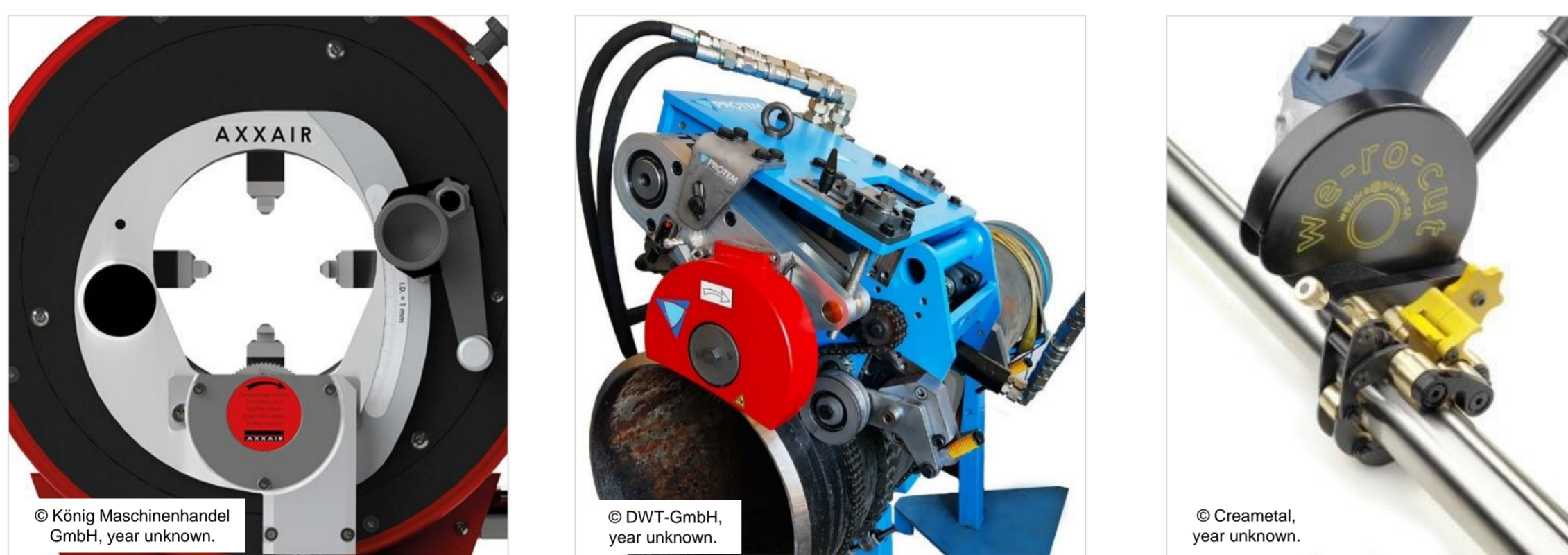
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Explanations for the development of a novel universally inside pipe separator for dismantling (contaminated) pipelines

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1. State of the Art

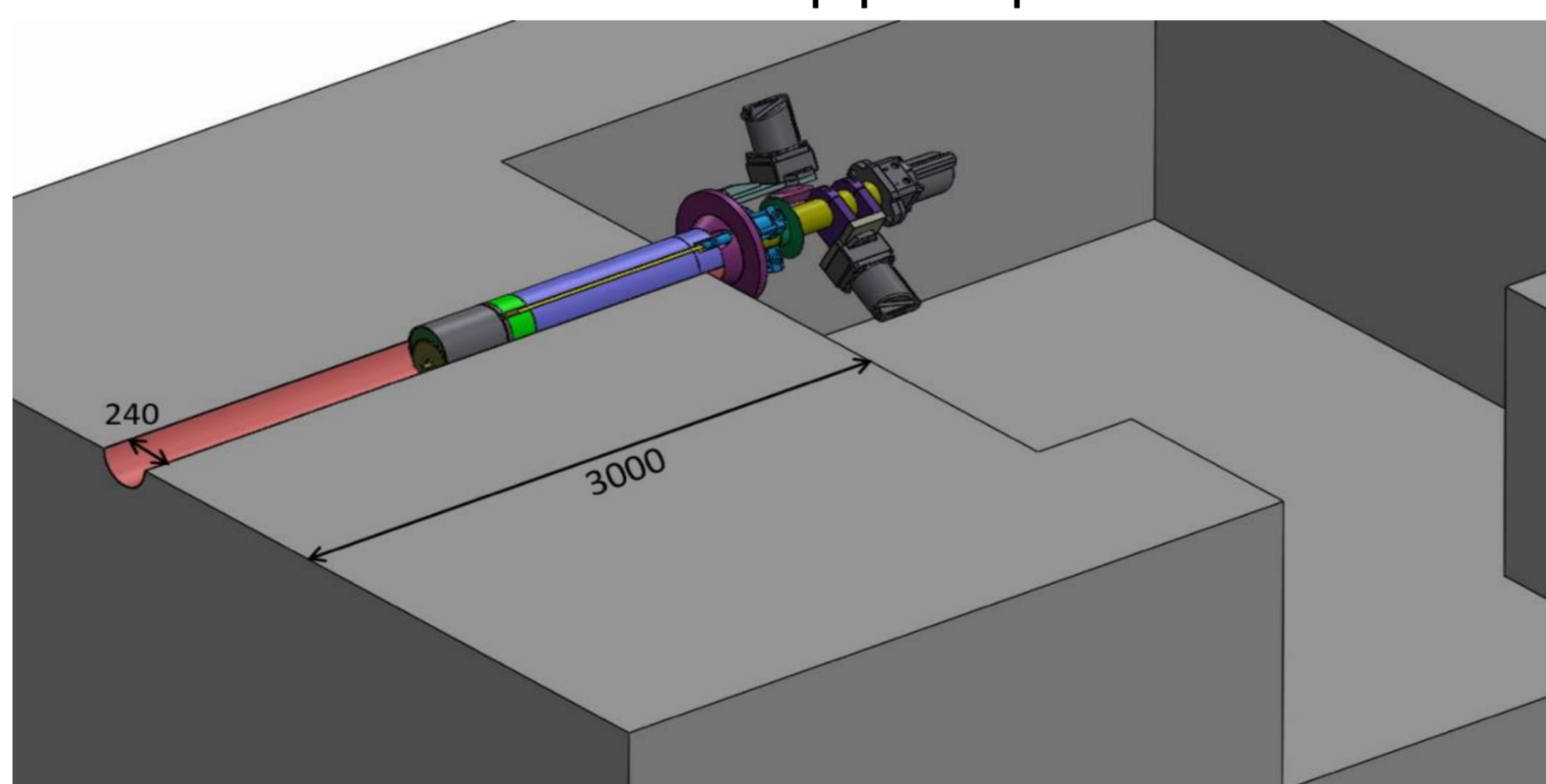
- Dismantling of pipelines in nuclear facilities poses a variety of challenges due to, among other factors confined space or the routing of pipelines
- Existing pipe cutting systems have significant disadvantages:
 - Not suitable for mobile use
 - Cutting the pipes is usually done from the outside of the pipe
 - Cutting systems for internal pipe separation are only available for a specific application or pipe diameter
 - No integrated drive and holding system as well as high set-up and assembly times



Small excerpt of examples of currently available cutting systems for the dismantling of pipelines

2. Aim of the Project

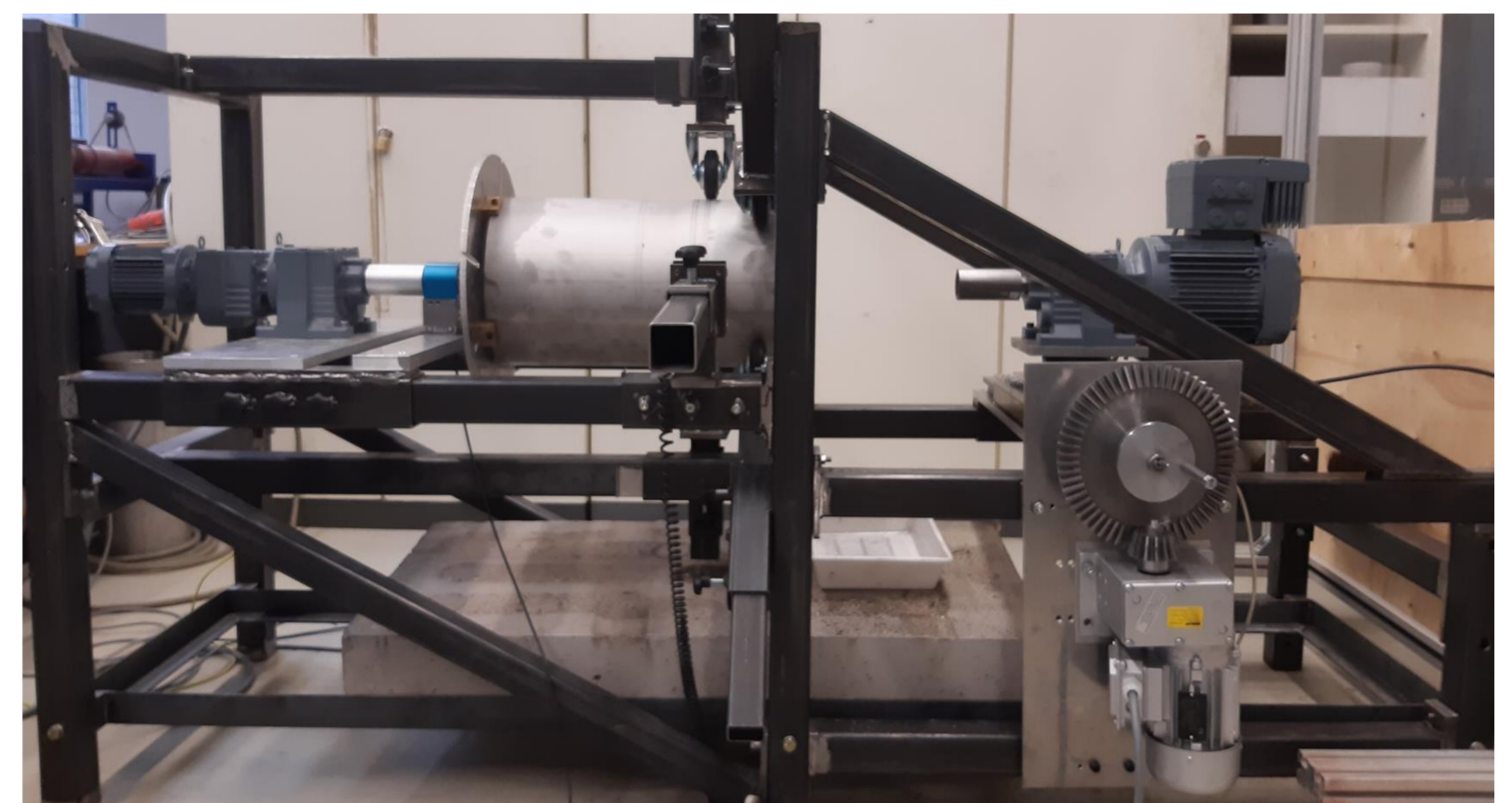
- Development of an innovative internal pipe cutting device with a wide range of applications in terms of pipe diameter, wall thickness and material
- Continuous extraction of chips or other residual materials
- Combination of cutting and cleaning as well as removal of the cut pipelines
- Dismantling of pipelines that are difficult to access, use both in air and under water
- Manual or remote operation for flexible insertion
- Decontamination of the internal pipe separator



Schematic illustration of the planned cutting device [dimensions in mm].
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3. Research at KIT – TMB

- Development and construction of a test stand



Measuring stand for pre-test series at KIT

- Experimental test series for uniform internal pipe cutting with different cutting tools



Milling discs, saw blades and cutting discs are used for the pre-test series

- Test series on different pipes
 - Wall thickness, material and diameter



Pre-Test are performed on exposed and concreted- in pipes

- Practical test series of different operating parameters
 - Feed rate and Speed

Project Information

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Siempelkamp NIS engineering company mbH

RWE Nuclear GmbH


Siempelkamp
NIS Ingenieurgesellschaft mbH



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