New research methods have caused exponential growth in the creation of research data, requiring new approaches to data curation in the humanities. IT-based research techniques and collaborative ways of working with data sets require secure and flexible research infrastructures. The TextGrid Repository, as part of the TextGrid Virtual Research Environment, enables researchers to publish and share their data in ways that support long-term availability and re-use.

### Technical Functionalities and Infrastructure of the TextGrid Repository

#### Archiving and Publishing Data in the TextGrid Repository
- Bitstream preservation with redundant grid storage and tape backup for 10 years, following the guidelines of the German Research Foundation (DFG)
- Data permanence for citation purposes guaranteed by Persistent Identifiers (PID) via a reliable handle service
- Ability to search and browse all published data through the portal textgridrep.de

#### Working with Data in the TextGrid VRE
- Rights management and project administration in a role-based access control-enabled database
- Metadata schema with automatic validation specially developed for digital editions
- XML-based tools and import workflows, such as for DFG Viewer METS

#### Publishing Data in a Digital Edition
- Publication of data from the TextGridRepository to a customised installation of SADE, the Scalable Architecture for Digital Editions developed by the Berlin-Brandenburg Academy of Sciences and Humanities (BBAW)
- XML technologies like XQuery and XSLT, allowing for easy data presentation
- Open REST interface to enable access to research collections using common technologies (Javascript, CSS, HTML)

### Providing Access to Research Data: Three Possibilities for Researchers

1. Research data in the TextGrid VRE can be archived and published in the TextGridRepository, which also enables simple and advanced search functions, browsing across published research data with fulltext and metadata indexes.

2. Research groups can present their data from the TextGrid VRE in their own portal with predefined browse and search options, graphics, and functions.

3. Research groups using their own database can sync it with the TextGrid Repository for data archival and storage, allowing them to provide complex visualizations and project-specific search queries while ensuring the long-term access of their data.