Introduction

With the development of modern technologies that enable mass digitization of written, visual and material historical sources, the accessibility of such material in the form of virtual databases and on-line archives has become a highly topical issue. While virtual archives of documents are now commonplace, digital editions are also becoming so; digital editions of seals still pose a methodological and technological challenge.

Attempts to make seals accessible

1. Sphragistic material in the Czech Republic is kept mainly in archives and to a lesser extent in museums.
   - first attempts to make seals accessible in the form of an online database in the late 1990s
   - under the leadership of the archival administration of the Ministry of the Interior of the Czech Republic
   - the database was available until 2014
   - a number of problems, including serious errors in the description of the seals and mainly the lack of photographic documentation

2. The Brno City Archives is currently attempting to make its rich sphragistic material available in the form of a catalogue, for the time being in a classic form. This is a unique attempt in the Czech Republic.
   - the archive contains about 2000 impressions of medieval seals (until 1526)
   - the catalogue emphasizes high quality photography and a detailed description of the seal
   - a catalogue of documents is being created in parallel, both catalogues are to be used in parallel
   - a weakness is the use of only one photograph, which does not completely replace the original, and the lack of a direct link to the documents

3. Part of the sphragistic material is available as a "side result" of the gradual building of the Monasterium virtual archive.
   - photographs of seals are usually not of sufficient quality
   - the description of the seal is completely missing
   - the advantage is the connection to the documents

Discussion on ways of digitizing seals

1. Taking a high quality, high-resolution digital photograph.
   - difficult to maintain the same quality of all photos
   - suitable lighting (sufficient, but not damaging the seal)
   - seals are only photographed from above
   - preferable to also take photographs of details and photographs from different angles in order to better read the reliefs or seals from the seal lacquer

2. Interest in 3D digitization of seals.
   - technologically and financially demanding method
   - it is also necessary to solve the insertion of 3D scans into the online databases
   - the selected scanner must be fast enough and safe for seals
   - allows study of non-sphragistic details, such as biological traces
   - so far successfully used for undamaged seals of larger sizes

3. The RTI method.
   - series of photos under different lighting angles, the result is similar to a 3D scan
   - highlights otherwise indistinct details compared to conventional photo
   - relatively cheap, accessible technology, not yet used in Czech archives

Conclusion

Making sphragistic material available in the form of online databases or even online editions is in the interest of archivists and sphragists alike.

Archivists: their primary interest is to protect the seal, to prevent its damage and destruction. The creation of an online database will make it possible to limit the disposition of the originals.

Sphragists: their interest is either to study the originals or to have an edition available to fully replace the originals. It is they, who will prepare systematic and detailed descriptions of the seals, which will form the basis of the online edition.

IT experts: their task is to prepare the most appropriate digitisation method according to the requirements of archivists and sphragists and to prepare a functional online environment for the sphragistic content.