All musical instruments are technological as well as cultural artefacts. However, organology has long made a distinction between traditional instruments and those that produce their sound through electric or electronic means. The latter ones had emerged from a context that was primarily one of engineering and technology rather than of music and art. For this reason, it was not until the late 20th century that these ‘technological instruments’ have entered the realm of musicological interest.

Even so, many of them can claim historical relevance already today: By now, early 20th century instruments like the theremin, the ondes martenot and the trautonium are considered ‘classic’ electronic instruments and are hence part of numerous historically oriented monographs. In many systematic classification schemes, these instruments find their place, too (e.g., Sachs, 1940). However, no previous account presents a systematic overview over the technical and aesthetical relationships between them.

Therefore, we compiled a database covering 100 of the most relevant electronic and digital musical instruments from 1888 to 2005 and their respective technical–functional, as well as musical–aesthetical properties. Those characteristics can be grouped as ‘year of appearance’, ‘Input–, Output–, Mapping Model’, ‘Mode of Operation’, ‘Reception’, and ‘Use’. This way, the use of specific interfaces and/or technologies in certain time periods as well as the musical contexts in which the instruments were used can be quantified, so as to suggest possible criteria for their success.

While the database itself has been compiled employing a cultural–historical discourse analysis, the resulting qualitative data will be then quantified by means of descriptive statistics. The database is conceived to be extended regarding the number of instruments as well as parameters, in order to, first, obtain a more refined analysis and, second, relate electronic to traditional instruments, which has rarely been done so far. Moreover, the quantified data can be further used in a statistical classification algorithm. It will allow to empirically group instruments according to their similarities in terms of their characteristic functional as well as aesthetical properties.