In international and highly-multilingual environments, it often happens, that a talk, a document, or any other input, needs to be translated into a huge number of other languages. Hovewer, it is not always an option to have a distinct system for each possible sentence pair due to the fact that such kind of translation systems are computationaly demanding.

Combining multiple target languages into one translation model usually causes a decrease in quality of output for each its translation direction. In this thesis we experiment with combinations of target languages to see, if specific grouping of them can lead to better results, than just randomly selecting target languages.

We make use of recent researches about training a multilingual Transformer model without any change to its architecture: adding a target language tag to the source sentence.

We trained a number of bilingual and multilingual Transformer models and evaluated them on multiple test sets from different domains. We found, that in most of the cases, grouping related target languages into one model caused better performance compared to models with randomly selected languages. However, when comparing any of tried multilingual models with bilingual ones, we noticed that the domain of the test set as well as domains of datasets used for sampling the training data for each language pair, might have a higher effect that the grouping of target languages.