



Master's thesis (30 ECTS)

MT_67

Working title	Ring closure in conventional tunnelling – Current philosophies in the German-speaking regions of Europe
Project objectives	Summary of current philosophies regarding the best moment of a delayed ring closure in conventional tunnelling which are applied in the German-speaking regions of Europe. Differentiation of tunnel drives through different rock mass types, different excavation sequences (top-heading, bench, invert), and support systems with or without yielding elements. The summary shall give an overview of pros and cons of common approaches and name published cases, where these approaches have (not) worked. Full-face excavations are of no interest.
Student has enthusiasm for	conventional tunnelling; tunnelling processes and operations; design of shotcrete liners; stresses and internal forces within shotcrete liners
Requirements on student	Thesis and communication in English (even though most documents to study might be in German); presentation to and discussion with cooperating partners
Start (earliest / latest)	Immediately / April 2021
Project term (min. / max.)	6 months / 8 months
Coop. with external institution	Tokyo Metropolitan University (TMU, Japan)
Possibility of remuneration	no
Contact person	Alexander Kluckner (kluckner@tugraz.at, +43 316 873 4226)