# Short description on the RMi system

Construction materials commonly used in civil engineering are mostly characterized by their strength properties. In rock engineering, however, no such specific strength characterization of the rock mass is in common use. Most engineering is carried out using various descriptions, classifications and non-quantifiable experience. Hoek and Brown (1980), Bieniawski (1984), Nieto (1983) and several other authors have, therefore, indicated the need for a *strength characterization* of rock masses.
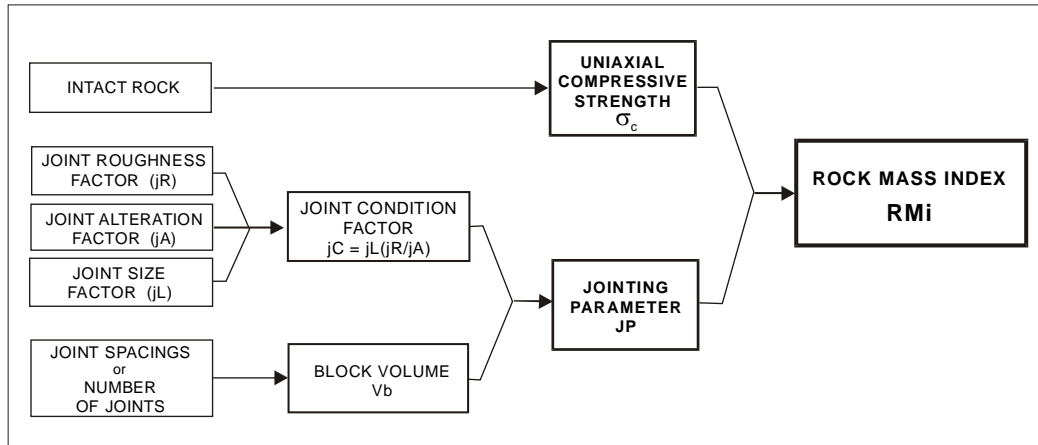

The Rock Mass index, RMi, system has been developed to meet this need. It was developed between 1986 and 1995. The main development is presented in the Ph.D. thesis of Arild Palmstrøm from 1995. An important issue has been to use parameters in the RMi, which have the greatest significance in engineering. The input data in the RMi is shown in the figure above.

RMi is based on the principle that the joints intersecting a rock mass tend to reduce its strength. It is therefore expressed as: RMi = UCS $\times$ JP

  here   UCS =   the uniaxial compressive strength of intact rock, measured on 50 mm samples.
            JP =   the jointing parameter, expressing the reduction in strength of the intact rock caused by the joints. As shown it incorporates the main joint features in the rock mass.

The main applications of RMi are shown in the figure below.
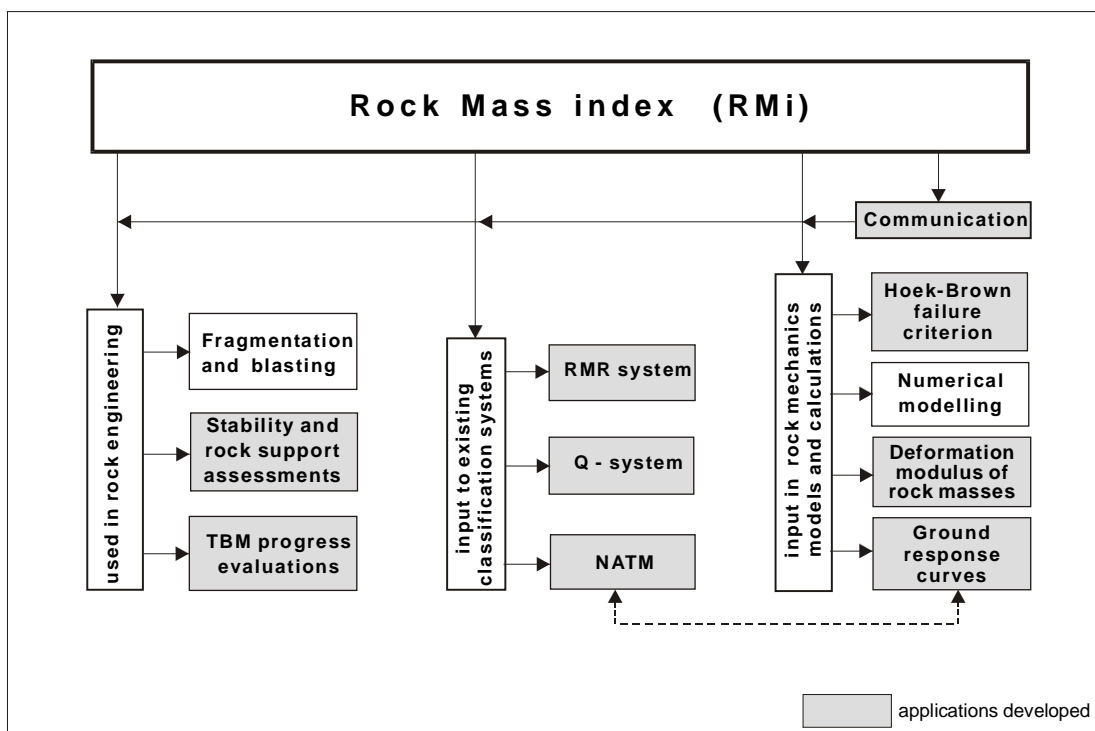
For further reading, see PhD thesis on RMi in www.rockmass.net, giving the development of RMi, including information on the main parameters as well as rockmass and ground features applied in engineering geology and rock engineering.