ABSTRACT: Sweden is currently developing a new national standard for avalanche work. Much of the new paradigms in both education and practice are inspired from the North American avalanche tradition. As a fundamental condition, the progress is based on the latest research and practice. The development is driven by a conscious merging between theory and practice. Through collaboration between a university and field operations, a national center of knowledge has evolved in Abisko, northern Sweden. Practitioners working in the ski area and railway operations are part of a knowledge transfer project. The area is the most avalanche prone in Sweden with a highway, an iron ore railway and a ski area in it. The avalanche climate has influences from both maritime and continental snowpack and deep persistent layers are common. In a case study of the 2002 skier trigged slab avalanche, 800 m wide with a fracture thickness between 2.5 and 5 m, it is shown that the weak layer of facets was formed 80 days earlier. This type of avalanche frequently reaches the iron ore railway and a forecasting program has started using depth and distribution as main variables. With the use of inclinometers the total height of snow is measured in the starting zones. Regular monitoring of snow depth combined with classical snow stability analyses point out the possibility of a model using the correlation between anticipated crown height and run out distance. This model is now evaluated in order to predict the risk level for the railway.

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