Techniques involving reduction are very common in number theory and arithmetic geometry. In particular, elliptic curves and general abelian varieties having good reduction have been the subject of very intensive investigations over the years. The purpose of this talk is to report on recent work that focuses on good reduction in the context of reductive linear algebraic groups over finitely generated fields. In addition, we will highlight some applications to the study of local-global principles and the analysis of algebraic groups having the same maximal tori. (Parts of this work are joint with V. Chernousov.) (Received August 26, 2020)