The main challenge in increasing the economic efficiency of industrial enterprises is the low level of adaptation to the rapid changes in the market environment and the lack of effective mechanisms to overcome the crisis. Therefore, there is a need for radical methods of innovation management in the companies that are reengineering the business processes. The main purpose of this study is to develop methodological foundations of the mechanism of radical transformation of the business processes at industrial enterprises, which are the elements in shaping the foundation of this mechanism, comprising the theoretical and methodological, organizational, informational, and instrumental basis for his support. This article uses the following methodological approaches: a comparative analysis in the study of the industry over time; empirical method in developing the basic principles of the implementation mechanism of radical transformation; method of system analysis in the formation of elements of organizational and economic support of radical transformation; methods of mathematical statistics - when calculating the index of technological readiness, innovation and integrated index; the method of synthesis to generate main recommendations for the practical implementation of the mechanism of radical transformation. A comparative analysis of the global competitiveness of countries. The evaluation of the competitiveness of Switzerland, Ukraine, South Africa and their ability to carry out the radical innovations, namely the transformations of the business processes based on indicators of technological readiness index, innovation index and integral index of enterprise readiness for the radical transformations, was conducted. The basic prerequisite for the introduction of the radical transformation of business processes industry. Methodological aspects of the mechanism of radical transformation of business process entities containing a backbone of its elements: the block of theoretical, methodological, organizational, informational, instrumental support. Formed recommendations for the effective implementation of this mechanism. Conclusion and prospects of the follow-up research. The Global Competitiveness Index of the World development block of several states for the technological readiness and innovation unit is studied. The assessment of the competitiveness of South Africa and its capacity for radical transformation of business processes is carried out. The basic premise for the radical transformation of business processes, such as re-engineering business processes at the world level is chosen. The theoretical position of the radical transformation of industrial enterprises. Methodological aspects of the mechanism of the radical transformation of the business processes at the economic entities. Practical recommendations for the implementation of this mechanism is formed. The prospects of the follow-up research on this topic should include the implementation mechanism at the application level of the radical transformation of the business processes at the industrial companies considering the specificity of the economies of the surveyed countries. Keywords: radical transformation, mechanism, business processes re-engineering, industrial enterprise