



Zoltán Szilvássy, Rector, Full Professor

University of Debrecen, Debrecen

Innovation trilemma (Higher education and Industry cooperation)

Aim: My work is referred to as an approach to the phenomenon of 'globalisation paradoxone' through potential role of universities with special regards to pharmaceutical industry.

Basic concept and methods: We think that the key element in building an effective pharmainnovation system is a stable cooperation among pharmaceutical companies and a multidisciplinary knowledge centres the latter of which represented by universities and/or academic research institutions. The optimum form of cooperation at least according to our experiences is the creation of industrial clusters of in which the universities serve as knowledge centres with significant capacities of both multilevel education and experimental and clinical research. Moreover, these baseline university medical research capabilities if supplemented with a wide range of natural sciences such as physics, chemistry, biology and informatics and sciences of law end economics within an institution may render the knowledge centre a highly competitive centre of competence.

Results: One and a half decade ago, the University of Debrecen was successful in building an university-industry network in pharmaceutical industry with Richter Gedeon pharmaceutical company as a principal player together with numerous small and SMEs, a system strongly supported by the local government termed Pharmapolis Innovative Cluster of Pharmaceutical Industry. This 'triple helix' innovation structure was then supplemented with participation of financial institutions succeeding generation of distinct projects entering the clinical phase. Phase 2/1 results were found to attract either financial partners or capable of eliciting an interest from global players outside the cluster. It is a point of importance that the cluster members are at least in part owned by Hungarian share holders. The major results of the development of the system beyond producing competitive products and/or product candidates derive from creation of manufacturing plants in the city belonging to either directly to pharmaceutical industry or presenting as externals of the particular industrial branch such as manufacturing and distributing radiodiagnostics or offices dealing with regulatory affairs. These results together may answer questions of the major economic trilemma of modern societies as to whether strenghtening of national self-definition, globalisation and/or democratic economy policy is of preference.

Conclusion: We conclude education and university-based innovation of high quality in structured collaboration with national companies yield very good conditions for globalisation.