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## Understanding transition dynamics using a combined TIS-MLP approach

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### Abstract

We studied the transition to animal-free testing in medicine regulation and while doing this we follow-up on the suggestion of Markard and Truffer (2008) that combining the Technological Innovation System (TIS) and Multi Level Perspective (MLP) is very useful for understanding societal transitions. The urgency of the transition to animal-free medicine testing is due to the societal resistance, the huge quantities of animals that are used and the scientific dispute concerning the value of animal testing.

Understanding societal transitions has emerged as an important topic of research during the last decade. Several perspectives have been developed to contribute to the understanding of how these transitions work. Two frameworks have become dominant: 1) The TIS approach focusing on the emergence of a particular technology and 2) the MLP approach that aims to study the broader transition process. Both TIS and MLP approaches are subject to criticism. The TIS approach is praised for its analytical power but is regarded as myopic concerning the explanation of technological transitions. The strength of the MLP approach is that its conceptual repertoire links innovation activities in niches with transformations in regimes of current practices, however the analysis of the regime level is often underexposed as MLP studies are largely confined to the niche level.

To enhance insight in transitions Markard and Truffer (2008) suggested exploiting the complementary strengths of the TIS and MLP approaches. We used this combined framework to assess whether this actually works out in practice. To reinforce the regime analysis insights in cultural and structural inertia to change are used to explore regime mechanisms that inhibit the transition. This paper not only contributes by showing the implications of using the combined TIS-MLP approach but also reveals TIS and regime mechanisms that inhibit the transition to animal-free methods in regulatory medicine testing