

**CONCEPTUAL DEFINITION OF TECHNOLOGY EMERGENCE:
A LONG JOURNEY FROM PHILOSOPHY OF SCIENCE TO SCIENCE POLICY**

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Serhat Burmaoglu^{1,2} Olivier Sartenaer³ Alan Porter^{4,5}

¹ (Corresponding Author) Izmir Katip Celebi University, Faculty of Economics and Administrative Sciences, Izmir, Turkey (serhatburmaoglu@gmail.com).

² Georgia Institute of Technology, School of Public Policy, STIP, Atlanta, USA
(sburmaoglu3@gatech.edu)

³ University of Cologne, *Philosophisches Seminar*, Cologne, Germany. osartena@uni-koeln.de

⁴ School of Public Policy, Georgia Institute of Technology, Atlanta, GA, USA

⁵ Search Technology, Norcross, GA, USA aporter@searchtec.com

Abstract

Technology and innovation policy have been the core of economic development since the 1950s. Moreover, the increasing rate of technological developments allowed policy and strategy makers to think about technology emergence for proactive planning. In this sense, technological emergence became popular with different applications and foresight studies. However, even though it is a popular concept in the literature, an accepted formal definition is lacking. In this study, we propose a definition based on review as: “Technology emergence is a cyclic process in highly creative scientific networks that demonstrates qualitative novelty, qualitative synergy, trend irregularity, high functionality, and continuity aspects in a specified time frame”. We discuss and explain the definition by demonstrating it in a multi-dimensional model to make it understandable and applicable for future studies. Finally, we discuss it with existing literature and propose future implications.

Keywords: emergence, technological emergence, concept, review, emerging technology