

The Value Creation Radar: AI-Supported Foresight for Identifying Value-Relevant Signals — A Mixed-Methods Approach

Tobias Ritter¹, Dr. Norbert Huchler¹, Ina Baier²

¹ISF Munich — Institute for Social Science Research, ²Fraunhofer Institute for Systems and Innovation Research ISI

Background

The project **“Value Creation Radar: AI-Supported Foresight for Identifying Value-Relevant Signals”** (2022—2027) is a strategic research initiative conducted by a multidisciplinary consortium comprising Fraunhofer ISI, Helmut Schmidt University, and ISF Munich. It is funded by the German Federal Ministry of Research, Technology and Space (BMFTR).

Project Aim: The core objective is the development of AI-supported foresight methods designed for the early detection of structural shifts in value creation. By leveraging advanced computational power, the project seeks to enhance the responsiveness of strategic innovation management.

The project follows a mixed-methods approach that explores at which points the AI-based process should be complemented by qualitative methods, for example to incorporate contextual, experiential and expert knowledge, to achieve significantly richer results — however, at greater expense. Behind this lie different ideas of integrating the “Radar” into innovation management: The innovation detection automat, the innovation exploration tool, and the participatory innovation method.

Methodological Framework: The project employs a structured **Horizon Scanning** process, integrated into a multi-methodological pipeline:

Scoping: Defining the search space and thematic boundaries.

Scanning: (Automated) identification of signals from heterogeneous data sources.

Crowdvoting: Leveraging collective intelligence for signal evaluation.

Sensemaking: Interpreting data to generate actionable insights.

Theoretical Foundation: Weak Signals

Central to this approach is the concept of “Weak Signals” (Yoon, 2012). These are defined as emerging issues or fragmented information that, while already present in professional discourse, exhibit a specific momentum suggesting a significant future impact on value creation systems. While the project utilizes a mixed-methods design, an important focus lies on the development of a technical, AI-based “Radar Tool” to automate and scale the identification of these latent dynamics.

Horizon Scanning as a process, combining data and expert knowledge — a highly selective process

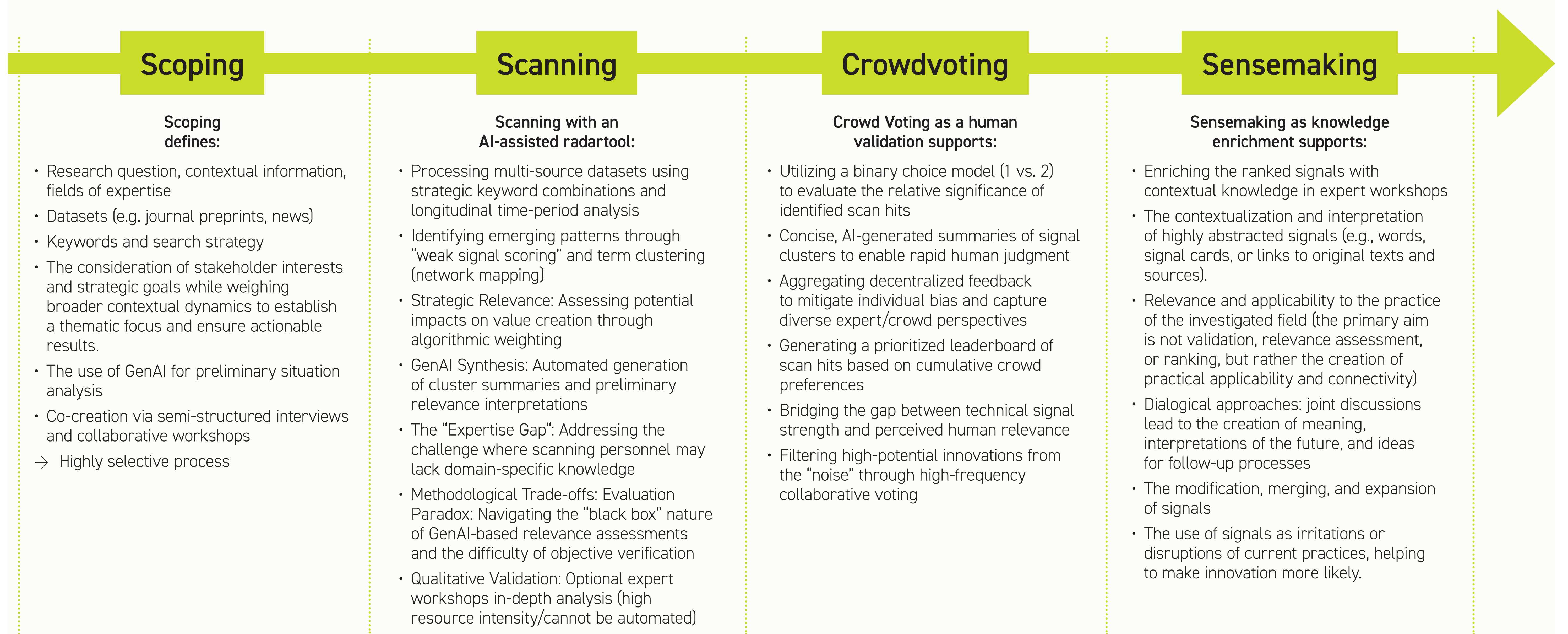


Figure 1: Horizon Scanning as a 4 step process. Combining qualitative research, AI-supported signal search and expert knowledge.

Food for Thought:

- AI can identify patterns, but only human “Sensemaking” can transform a signal into a strategic value proposition.
- The cost-benefit trade-off: Is the “richness” of qualitative expert knowledge worth the loss of AI-speed?
- In a fully automated “Detection Automat”, who owns the creative spark of innovation?

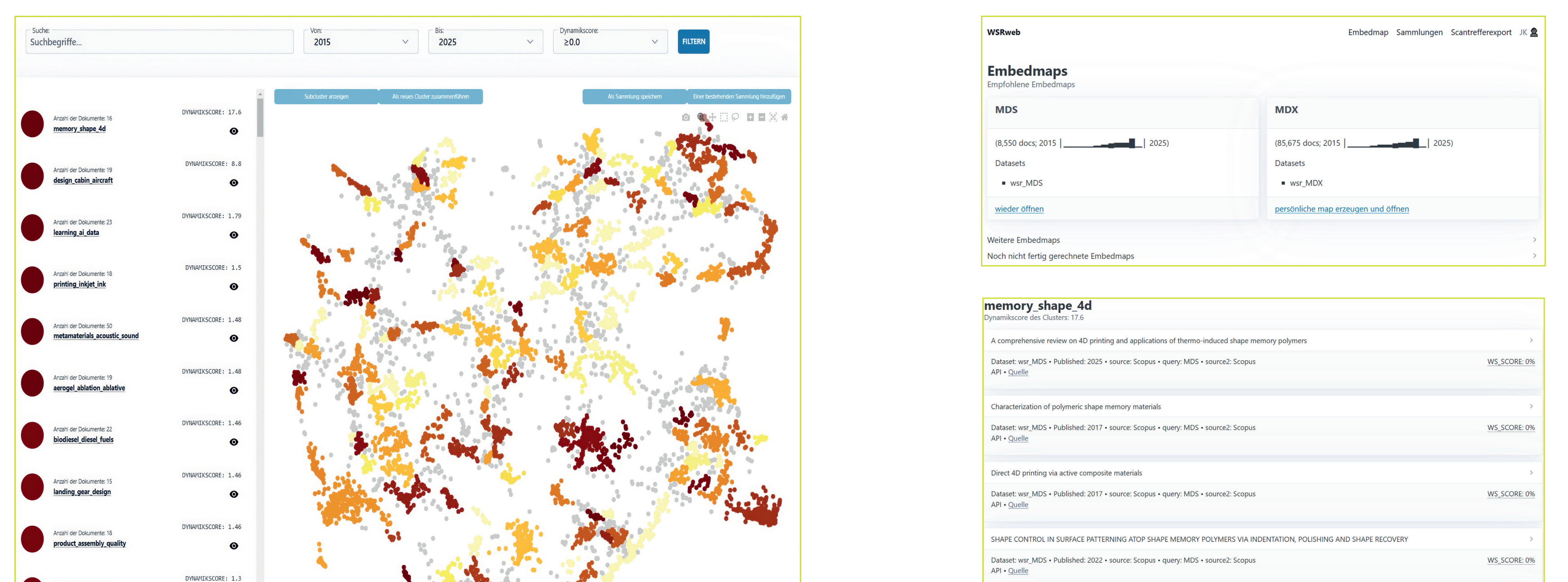


Figure 2: User interface of the Value Creation Radar. Utilizing embedding map visualizations to detect and analyze latent patterns signifying weak signals.

With funding from the:

