Knowledge graphs (KGs) are graphs representing entities and their relationships that adhere to three conditions: they integrate data from heterogeneous sources; they have a schema (or ontology) describing their UoD; and they are used to derive knowledge, insights, etc.

Organisations have a good understanding of the problems they face, but do not know whether or how these problems can be solved using KGs. The problem is that KGs are a difficult concept for organisations to grasp. There are no clear indications when a KG solves a problem and organisations need to rely on the extrapolation of existing case studies.

We present the Smals KG Checklist, which has been developed to address this gap. The checklist is to be used in a collaborative setting in which a facilitator fills in the forms. Starting from a concrete problem, the form will help an organisation decide whether a KG provides a viable and elegant solution.

In Part I, we first identify the problem, stakeholders, and core concepts. Then we aim to answer three questions by filling in Part II. These three questions are related to the conditions of a KG. The final question on Part I is used to identify future opportunities for the KG, or its applicability in the longer term.

The Smals KG Checklist has been made available with a CC BY-NC-SA 4.0. Scan the QR code to obtain the document.

In the images above, we use one of Smals Research’s KG projects with the Belgian Social Security to illustrate the checklist by filling in the forms. This project aims to integrate the data of three databases to which inspectors have access but are unable to query as a whole. Integrating the data into a KG requires an ontology and would greatly facilitate their work by allowing them to gain insights in, for instance, one’s employment histories.