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Evidence-based insights into the global trend and hot spots of research in Material Science

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Materials science, and research into new materials, has provided the milestones of human history. Today, science policy analysts have replaced archaeologists in charting the growth and diversification of the subject and mapping the global hot-spots of development.

Using the global research literature, we can review the growth of Materials research from the 1980s – with rapidly growing volume and share of activity in the physical sciences - and its diversification into increasingly well-recognised fields. The analysis will also document the shifting balance of activity between countries, with the early dominance of the USA replaced by the EU and then China. The growth of smaller but important countries can also be tracked.

Much Materials research is becoming highly-cited. We can draw on the highest impact publications to build maps of the research fields in and around Materials and, at a more detailed level, the growth in the literature of key topics can be illustrated. Graphene, porous materials and biomaterials are examples of innovative research areas that have created great economic possibilities and captured the public imagination. The most prolific organisations contributing to these fields can be described.