

METADATA FICHE

| Indicator name | <i>G1: AI economic agents</i> |
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| Rationale | It measures the size of the AI landscape. It measures the level of involvement of a geographical area (country, region...) in the worldwide AI landscape. Useful for cross-country comparison. The breakdown per organisation type enables further analysis of the relationships between research and industry, research and government and industry and government in different geographic areas, and allows the assessment of different properties of the whole ecosystem and local areas. |
| Definition | Number of economic agents in the AI ecosystem. Agents may be research institutes, universities, firms, laboratories, or governmental institutions, grouped into 3 types: research institutes, firms and governmental institutions. Further details: The category "governmental institutions" includes the institutions owned by the state, or with public administrative functions, which do not have an explicit research portfolio (i.e., excludes universities and research institutes, which fall under "research institutes"). In the category "research institutes", all agents mainly devoted to research activity are encompassed, i.e. private research centres, public research centres, universities, university/academic spin-offs, and industrial research centres exclusively dedicated to research activities. Departments of a same university are not considered as separate agents." |
| Unit of measurement | Number of agents (integer, percentage) |
| Geographical coverage | World |
| Geographical granularity | World, Macro area (top countries plus world regions), Country, Region |
| Breakdown | Organisation type: research institute, firm or governmental institution. |
| Data source(s) | JRC AI TES Dataset It is a multisource microdata dataset built by considering the main AI-related industrial, innovation and research activities, and all the economic players that are involved in them (i.e. firms, research institutes, governmental institutions). The TES approach takes into account information about location, technological aspects, and interactions, in order to build a holistic and interconnected view of the worldwide AI ecosystem from 2009 to 2020. |
| Reference date | Period 2009-2020 (one value for the entire period) |
| Reporting frequency | Annual* (see References and Comments) |
| Known limitations | It does not address the relative importance of players, but their presence in the landscape. This limitation is overcome by the introduction of indicators addressing the level of involvement (number of AI R&D activities). This indicator does not consider the size of the economy of the geographic area. This is overcome by the consideration of the indicator relative to GDP. |
| References and Comments | The economic agent (or player) is expected to have an active role in the techno-economic segment, with the capability to influence its economic development and future evolution. In this sense, the focus is set on the organisations, and not on individuals, namely the applicant organisation owning the invention in the case of patents, authors' affiliation in conference proceedings, companies, governmental entities, etc. To establish a comprehensive landscape, we target both industrial and R&D activities. This helps to capture economic agents that participate in the landscape with a variety of foci, interests and impact capacity. Therefore, players' economic activities of interest for the analysis of the TES ecosystem include R&D processes (research and innovative developments), general economic processes (industrial production, trade, marketing and other services), firms funding (venture capital funds or |

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| | other types of investment). |
| | *As long as JRC TES AI Dataset is updated with this frequency. |
| | Reference: Samoili S., Righi R., Cardona M., López Cobo M., Vázquez-Prada Baillet M., and De Prato G., TES analysis of AI Worldwide Ecosystem in 2009-2018, EUR 30109 EN, Publications Office of the European Union, Luxembourg, 2020, ISBN 978-92-76-16661-0, doi:10.2760/85212, JRC120106. https://publications.jrc.ec.europa.eu/repository/handle/JRC120106 |
| Foreseen availability | April 2021 |