# ROADMAP ON AI TECHNOLOGIES & APPLICATIONS FOR THE MEDIA INDUSTRY

## SECTION: "METHODOLOGY"

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You can site this report as follows:

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# Methodology adopted

To develop this first version of the roadmap three tools have been mainly used: state of the art analysis; online surveys; and development of mini white papers with a look into the future (Figure 1).
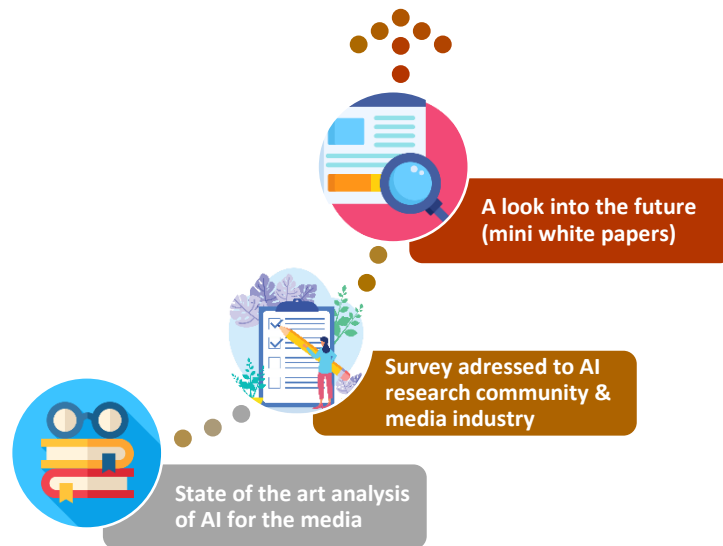
***State of the art analysis***: A large number of roadmaps, surveys, review papers, research papers and opinion articles focusing on the trends, benefits, challenges, and risks of the use of AI in different media industry sectors have been reviewed and analysed, aiming to provide a clear picture of the AI for media landscape. Our goal was to identify the most transformative applications of AI in the media and entertainment industry as well as the most important AI research trends and also provide insights on the main challenges (ethical, societal, economic, business, etc.) that the specific technologies and the adoption of AI by the media industry in general involve.

***Survey***: An online survey has been launched addressed to both AI researchers working on multimedia AI but also to people working in the media industry or whose work is closely related to this industry, aiming to collect their opinions on the benefits, risks, trends, challenges and ethics of AI use in the media. 150 responses were collected from AI researchers and media professionals from 26 countries in Europe and beyond and were analysed to identify main trends.

***Look into the future***: Based on the results of the state of the art analysis, we identified some of the most promising current and future trends in AI research and applications that could benefit the extended media industry. These technologies and applications were further analysed with a look into the future, aiming to provide information and insights on how they could positively disrupt the media and entertainment industry. For each identified technology/application, a

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[1] The icons used in this figure are from flaticon.com and vecteezy.com

mini white-paper was produced, providing information about the ***current status*** of the technology; ***research challenges*** relevant to its adoption and development; ***societal and media industry drivers*** for the adoption of the technology in the media sector; ***future trends*** presenting the potential applications of this technology in different sectors of the media industry; and ***goals for the next 10 or 20 years***, summarising a set of milestones for the further development of these technologies and their application in the media. The same format is used for the development of similar white papers that focus on the deployment of AI on different media industry sectors, including news, social media, film/TV, games, music and publishing but also on the use of AI in the service of society, i.e. AI used to enhance online political debate, counteract disinformation or facilitate social science research.

One of the most interesting parts of this look into the future was the development of ***vignettes***, i.e. short stories with media practitioners or users of media services as the main characters, aiming to showcase how AI innovations could transform the media industry in practice.

This roadmap was the result of close collaboration between the members of the AI4Media consortium, with all research, technical and media industry partners contributing different subsections based on their expertise. In addition to these, this report also includes two contributions by invited external experts. More specifically, the section on AI fairness was authored by Samuel C. Hoffman from IBM Yorktown Heights in New York, an expert in algorithmic fairness and part of the team that develops the AI Fairness 360 open source toolkit[2]. In addition, the section on AI for publishing was authored by researchers participating in the Möbius H2020 project[3], which aims to modernise the European book publishing industry by remodelling the traditional value chains and business models, uncovering the prosumers potential and delivering new enriched media experiences. Figure 2 provides a visual overview of the structure of the roadmap and all the different topics we have focused on.

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[2] AI Fairness 360: https://ai-fairness-360.org/
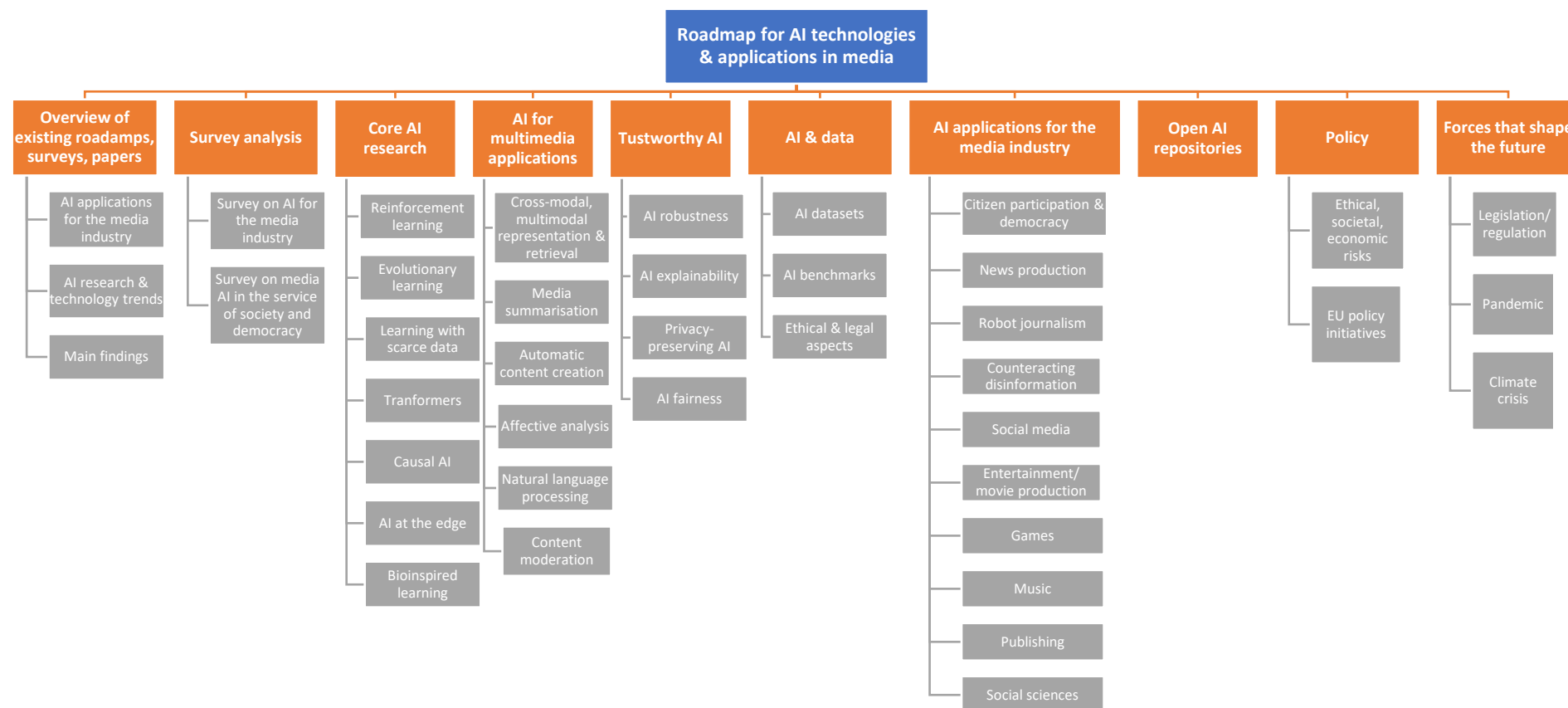[3] Möbius project (funded by H2020 under grant agreement no 957185): https://mobius-project.eu/

*Figure 2: Overview of the structure of the roadmap on AI for the media industry and the various topics covered.*

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