Preface

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Data centricity plays a fundamental role in defining new and disruptive business models. Many organizations in public and private sectors have successfully adopted information technologies to build huge repositories of data that they can analyze to support decision-making and gain a competitive advantage. However, despite the paramount relevance of data-driven technologies, organizations demand alliance-driven infrastructures capable of supporting controlled data exchange across diverse stakeholders and transparent data management. Data ecosystems (DEs) are the future of data management, since they allow companies to share data and collaborate to get valuable insights. Such benefits can be achieved only with a proper approach for generating and sharing knowledge. Thus, DEs aim to solve issues like managing unstructured and heterogeneous data, offering various data-centric services, including query processing and data analytics, exchanging and integrating data while preserving personal data privacy, data security, and organizational data sovereignty. Hence, implementing a data ecosystem imposes challenges regarding, amongst others, data management, data quality, trust, data exchange, data integration, machine learning, and knowledge-based systems. Moreover, these interoperability issues have to be solved and data integration performed. In the First International Workshop on Data Ecosystems (DEco'22), we aimed at publishing innovative contributions that further the idea of data ecosystems and tackle the above challenges resulting from the complexity of data ecosystems. We invited research papers which address crucial data ecosystem topics, such as metadata management and semantics, data sovereignty, data quality management, concept and mapping discovery for data integration, or responsible and trustable data management in data ecosystems amongst others.

From the submissions, we could accept six high-quality full papers. The accepted papers comprise aspects of trustability, architectural design, metadata management, data sovereignty, and report experiences from use cases based on data ecosystems. We thank all reviewers for their excellent work!

The workshop itself was held in a hybrid mode, with editors, speakers, as well as participants attending in Sydney and remotely. Approximately 30 participants attended onsite, while about 40 people participated remotely. The workshop was organized around two paper presentation sessions. We were especially happy that we could count on Prof. Boris Otto from TU Dortmund University and the Fraunhofer Institute for Software and Systems Engineering ISST for an inspiring keynote talk about Dataspaces for Data Ecosystems (the abstract of the talk is included in the proceedings as well). Finally, the workshop concluded with an exciting panel discussion with outstanding experts of the field, namely Valentina Janev (The Mihajlo Pupin Institute), Ernestina Menasalvas (Universidad Politécnica de Madrid), Paolo Missier (Newcastle University), and Barbara Pernici (Politecnico di Milano). The discussion covered interesting experiences of the participants in the health and energy domain and diversely discussed how known challenges in data management, such as data integration, need to be reconsidered for data ecosystems.

The workshop got very positive feedback from the audience, representatives from industry and research, and we, the organizers, are very grateful that we had the chance to organize this event. We are looking forward to a potential second edition in the next year!

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