Record Nr. UNINA9910866585203321 Autore Schilizzi Richard T Titolo The Square Kilometre Array: A Science Mega-Project in the Making, 1990-2012 / / by Richard T. Schilizzi, Ronald D. Ekers, Peter E. Dewdney, Philip Crosby Cham:,: Springer International Publishing:,: Imprint: Springer,, Pubbl/distr/stampa 2024 3-031-51374-6 ISBN Edizione [1st ed. 2024.] Descrizione fisica 1 online resource (645 pages) Collana Historical & Cultural Astronomy, , 2509-3118 Altri autori (Persone) EkersRonald D DewdneyP. E (Peter E.) CrosbyPhilip 509 Disciplina Soggetti Physics - History Astronomy Cosmology History of Physics and Astronomy Astronomy, Observations and Techniques Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di contenuto Preface -- Introduction -- Large Radio Telescopes and the Emergence of the SKA, 1957-1993 -- Evolution of the SKA Science Case --Innovation meets Reality – The SKA design -- Global Collaboration on Science and Technology: The SKA Journey from "Grass-roots" to the World's Largest Radio Telescope -- Project Politics and Funding -- Site Selection -- Industry Engagement -- The SKA as a Mega-Science Project. Sommario/riassunto The Square Kilometre Array (SKA) is a grand vision project to build the most sensitive radio telescope in the world. This open access book tells the story of its development – a story of transformational science, innovative engineering, and global collaboration. Its journey has been long and complex, reflecting the many issues faced in creating an affordable design, choosing a site, and developing a viable global

organisation starting from a simple working group of far-sighted and persistent astronomers in 1993. The book begins with the emergence

of the SKA concept and the first working group. It traces the development of global scientific and engineering collaborations and ever more comprehensive governance structures for the SKA, the involvement and roles of funding agencies and governments, and the long, political site selection process. This occurred alongside efforts to overcome technical barriers and the difficult process of selecting technology. It follows these themes up to the point in 2012 when the project had just transitioned from a collaboration to a legal entity and the dual site decision was made – a pivotal moment when it was clear the SKA arrays would be built. The book is based on the authors' personal experience at the leading edge of the project over many years. as well as access to hitherto unpublished material from project archives, interviews, and presentations from many of the key players at a specially convened conference. It has a Foreword written by John Womersley, former Chair of the Agencies SKA Group and SKA Organisation Board. The book is intended for an audience ranging from funding agencies and governments involved in major research infrastructures, to historians of science and professional researchers studying mega-projects, to the astronomy and physics communities in general and interested lay readers.