Objective 3: Creation of a global network of Research Centers of Excellence (RCEs) for scientific research and training of a new generation of geodata scientists and for promoting interactions with policy professionals and other groups with an interest in data driven discovery in geosciences.

Implementation	Outcomes	Deliverables		
		Year 1	Years 2-3	Years 4-5
(i) DDE foresees the establishment of Research Centers of Excellence (RCEs); infrastructure development for the first RCE is well underway in Suzhou, China. Additional RCEs for development are underway in the UK, USA and Russia. Establishing RCEs in the European, African, South American, Arab and Pacific regions needs to explored. (ii) RCEs, in collaboration with DDE Members and partners could provide human resources development in the interface between data and geosciences in all parts of the world through training and exchange of expertise and knowledge. In particular training of young scientists from less	Completion of the construction of the RCE in Suzhou, Beijing and its regular use by visiting scientists, DDE member and partner representatives and for the organization of scientific research, training and technical workshops and public relations dialogues with journalists, policy professionals etc., to promote data driven discovery in the geosciences; Planning, negotiations, funding and other aspects for the establishment of RCEs in at least two other countries completed. Opportunities for establishing other RCEs in at least two additional regions/countries of the world, (EU and preferably	(i) RCE, Suzhou infrastructure development completed; **(ii)** RCE Suzhou designs, organizes and completes (a) one training workshop for geo and data scientists from less developed countries and (b) a scientific workshop that includes participants bringing data from their own countries for treatment with AI, machine learning and similar technologies	(i) "IGCP Google" that includes an "IGCP Google Scholar" or a similar product/service that centralizes 50 years of IGCP outputs launched in partnership with IUGS and UNESCO to commemorate IGCP-50; (ii) two new RCEs are established and operational; (iii) interest and opportunities to launch RCEs in other regions/countries, e.g., Russia, EU, Africa, Latin America and the Caribbean, Arab States etc., explored and country(ies)/region(s) with the greatest likelihood in succeeding the creation of new RCEs identified; (iv) RCE, Suzhou hosts at least 3 visiting scholars from member and/or partner	(i) At least one new RCE launched and networked with existing RCEs in China and in countries that established RCEs in years 2-3; (ii) the reception and level/extent of use of the "IGCP Google" tracked and achievements highlighted and constraints and problems for its better use, particularly by less developed nations, addressed; (iii) RCEs already established in China and at least in 3 other countries, together host 10 visiting scholars from member and/or partner organizations to design and launch co-operative initiatives on data-driven discovery in geosciences; (iv) a program to host geo and data science, post-doctoral

developed countries in Africa, Central and South America and Southeast, South and West Asia through short-courses as well as Masters/Doctorate Programs. (iii) A networked system of DDE RCEs could provide residencies for post-doctoral fellows, visiting scientists, policy professionals interested in learning about the use of data-driven geosciences applications in natural resources development and as venues for the organization of workshops, seminars and similar gatherings on selected DDE research themes and questions.	Africa), explored and pursued; At least one initiative for demonstrating the feasibility and value of converting published and unpublished paper data (the "long-tail" of data characterizing many geo and other earth sciences disciplines) derived from an on-going international cooperation program in the geosciences to digital mode. The International Geological Correlation Program (IGCP) implemented by IUGS and UNESCO, will commemorate its 50th anniversary in the year 2022 and could be a candidate for such a demonstration initiative. Products and services that data-driven discovery can deliver could be illustrated using the IGCP as a test-case and benefiting from the visibility that could be generated through its 50-year commemoration		used by DDE geo and data scientists; **(iii)** At least 5 scientific publications or reports produced by WTGs and Members to demonstrate the benefits of data-driven discovery in geosciences; **(iv)** DDE, IUGS and UNESCO collaborate to explore outcomes and results of 50-years of IGCP Projects for designing products and services such as "IGCP Google" (including perhaps an "IGCP Google Scholar") with	organizations to design and launch cooperative initiatives on data-driven discovery in geosciences in countries and/or regions participating in China's BRI initiative; (v) concept and proposal development and fund-raising campaigns for supporting post-doctoral fellows in RCEs	fellows contributing to DDE/RCE Network Research and Training Program financed and operational.

	activities scheduled for 2022 under the auspices of UNESCO, IUGS and others who have fostered the program; A special DDE initiative for post-doctoral fellowships (for geo and data scientists) designed and operated with funding resources for their residency in RCEs to carry out DDE sponsored data-driven discovery initiatives.	open access in particular to less developed countries.		