## Open Science Policy with its Background

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Author introduces the current state of Open Science Policy with its backgrounds as a tutorial for mainly researchers. G7 Science and Technology Minister Meeting and The 5th Science and Technology Basic Plan sets Open Science as a key issue to transform science itself and expects various impact to industry and society. The Cabinet Office organizes several workforces recently to promote Open Science aiming to develop a knowledge base for innovation. Ministry of Education, Culture, Sports, Science and Technology (MEXT) and funding agencies started to promote Open Access to journal article. Now they are developing some policies for data-sharing according to current status of Open Science movements with carefully watching researchers' attitudes. Through these policies, key issues for policy making for promoting Open Science are 1) Developing Data Policy by research organizations and funding agencies with Open and Close strategy, 2) Developing Data infrastructure for data management with sustainability, 3) Advocating all stakeholders to acquire data literacy and fostering specialists for data-sharing. Each issue is heavily affected by research area and researchers' custom, so that various proactive actions by research communities are also highly expected. The combination of top-down approach by policy and bottom-up approach by researchers and related stakeholders would be ideal to transform science. Communication among stakeholders including both parties of top-down and bottom-up is significant to foster the culture of Open Science with reliable data-sharing world, so far, as FAIR Data Science.

Keywords: Open Science Policy, The 5th Science and Technology Basic Plan, Data Policy, Research Data Infrastructure, FAIR Data Science

## Driving Open Science with Top-down and Bottom-up approach

Top Down

- Basic principle
- Guideline
- Incentives
- · Data Assessment
- Data Policy
- Data Infrastructure (Data Repository)
- Internal Incentives

Bottom Up G7Science and Technology Minister Meeting
EU (DSM) , OECD (Going Digital)
The 5<sup>th</sup> Science and Technology Basic Plan
(Society 5.0)

The Cabinet Office (Open Science workforces)

MEXT and Other Ministries Funding Agency

Developing knowledge basis to transform Science and change Society

Planning to enhance researchers' voluntary and proactive action

Research Organizations, Universities

Established Learned Society and New Initiatives

Voluntary and Personal Activities