



# Malaysia Open Science Platform

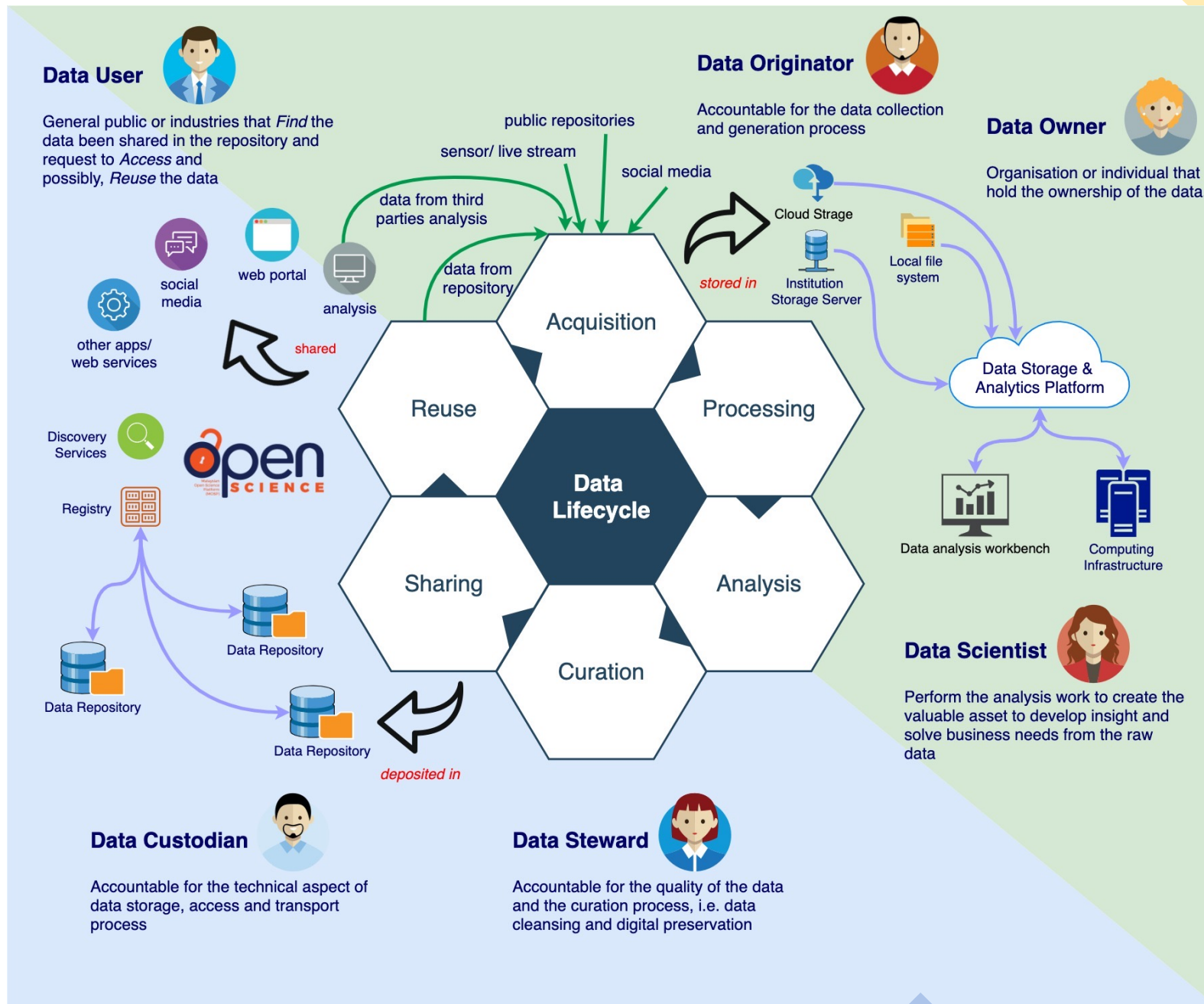
*Open science today for new science tomorrow*

Liew Chee Sun

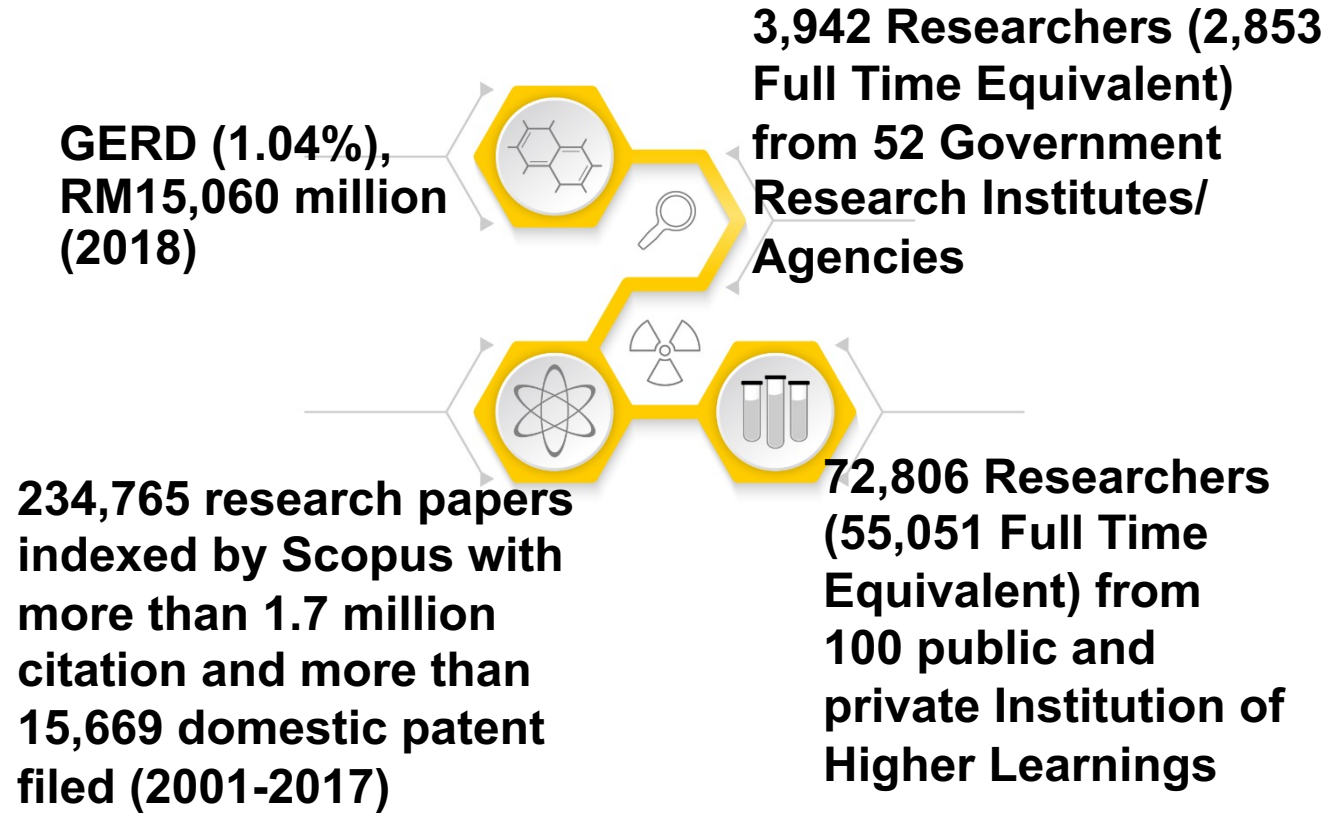
[csliew@um.edu.my](mailto:csliew@um.edu.my)

[www.akademisains.gov.my/mosp/](http://www.akademisains.gov.my/mosp/)





# Malaysia Research Landscape



Source: MASTIC, 2019

## Purpose of MOSP

To gather and consolidate Malaysia's research data which are **valuable national assets** in a platform that would enable accessibility and sharing of these research data in accordance to the FAIR principle.

- i. National Survey of Research and Development (R&D) 2019
- ii. National Bibliometric Study 2001-2017

# Malaysia Open Science Platform

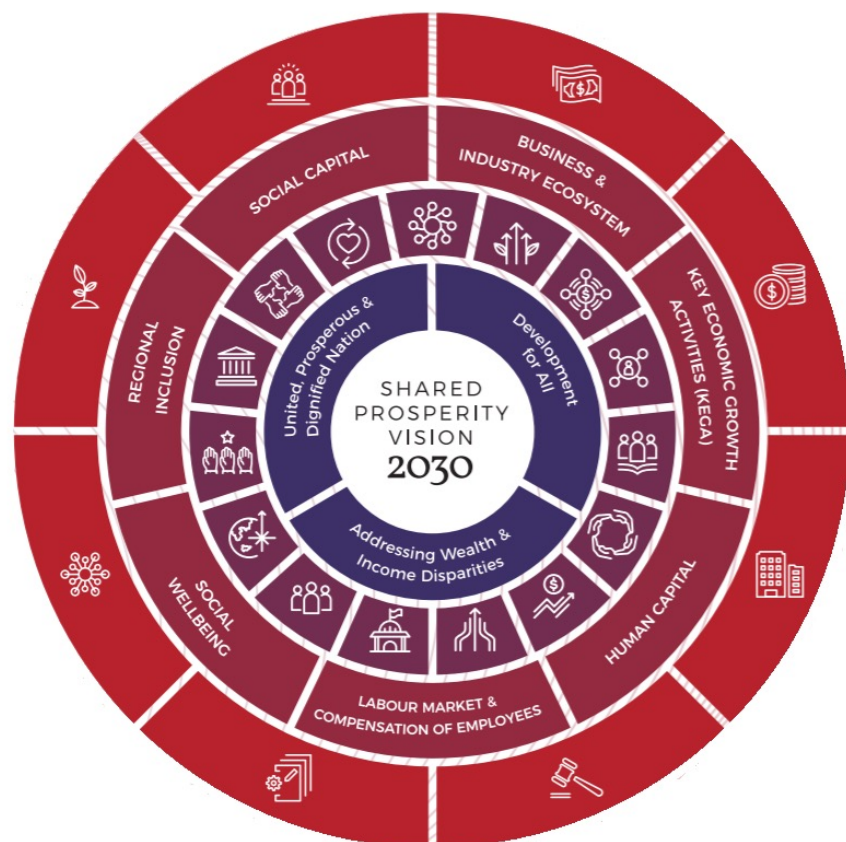


1. MOSP is initiated by the Ministry of Science, Technology and Innovation (MOSTI), managed by Academy of Sciences Malaysia (ASM) through the Malaysia Open Science Alliance
2. Launched on 7 November 2019 (then MESTECC)
3. A 2-year pilot project (2019 to 2021), linking all 5 Research Universities and Research Institutes under MOSTI
4. The pilot project is to look into the initial 3 main areas:
  - a. Landscape studies and Guidelines for Open Science in Malaysia;
  - b. Capacity Building and Awareness and
  - c. Infrastructure

**The Cabinet has approved MJM for Malaysia Open Science Platform which was tabled by MOSTI on 14 August 2020.**



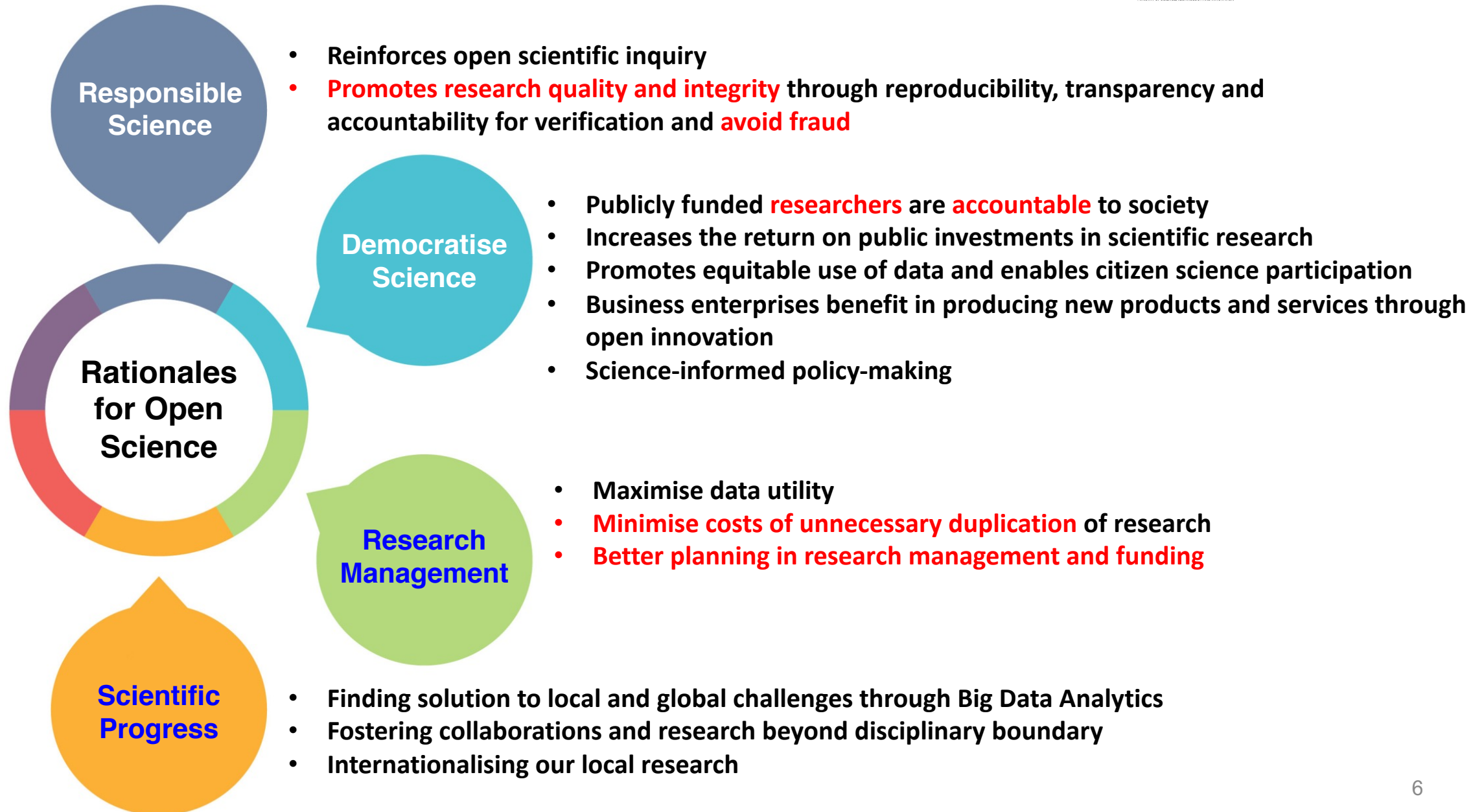
# Purpose of MOSP



**MOSP is a strategic transformative initiative to strengthen Malaysia's STI Collaborative Ecosystem towards achieving Shared Prosperity Vision 2030 and addressing the United Nations Sustainable Development Goals**



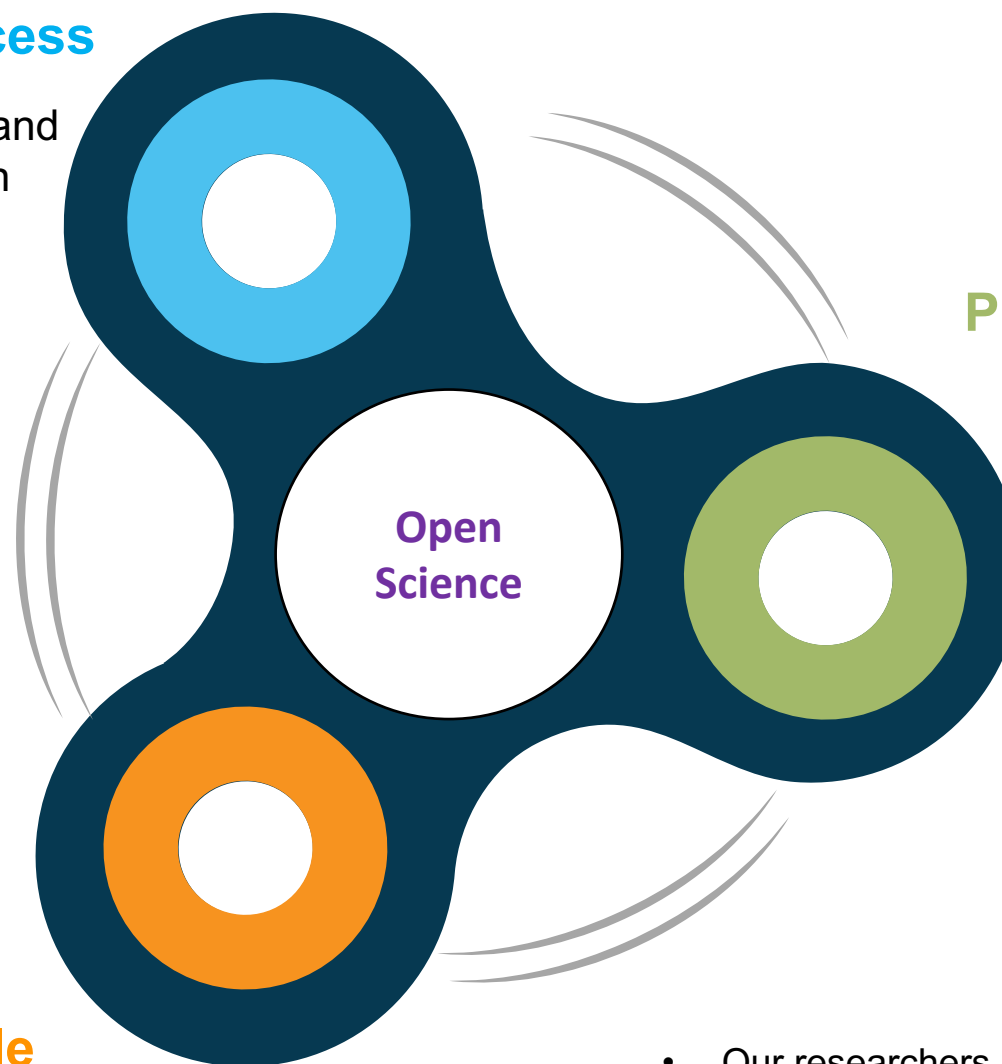
# Value of MOSP



## Policy & Process

**Policy** defines **what** is the scope and stakeholders' commitment to Open Science, and the **Process** defines **how** are we going to do it

- Research Data Management (RDM) Policy that ensure the research output are **FAIR**ly organised
- RDM system to guide the execution of the policy



## Platform

**Platform** comprises both human and IT support to facilitate the Open Science activities

- The helpdesk and curation services operated by data stewards
- The data repository and support team handled by the data custodians

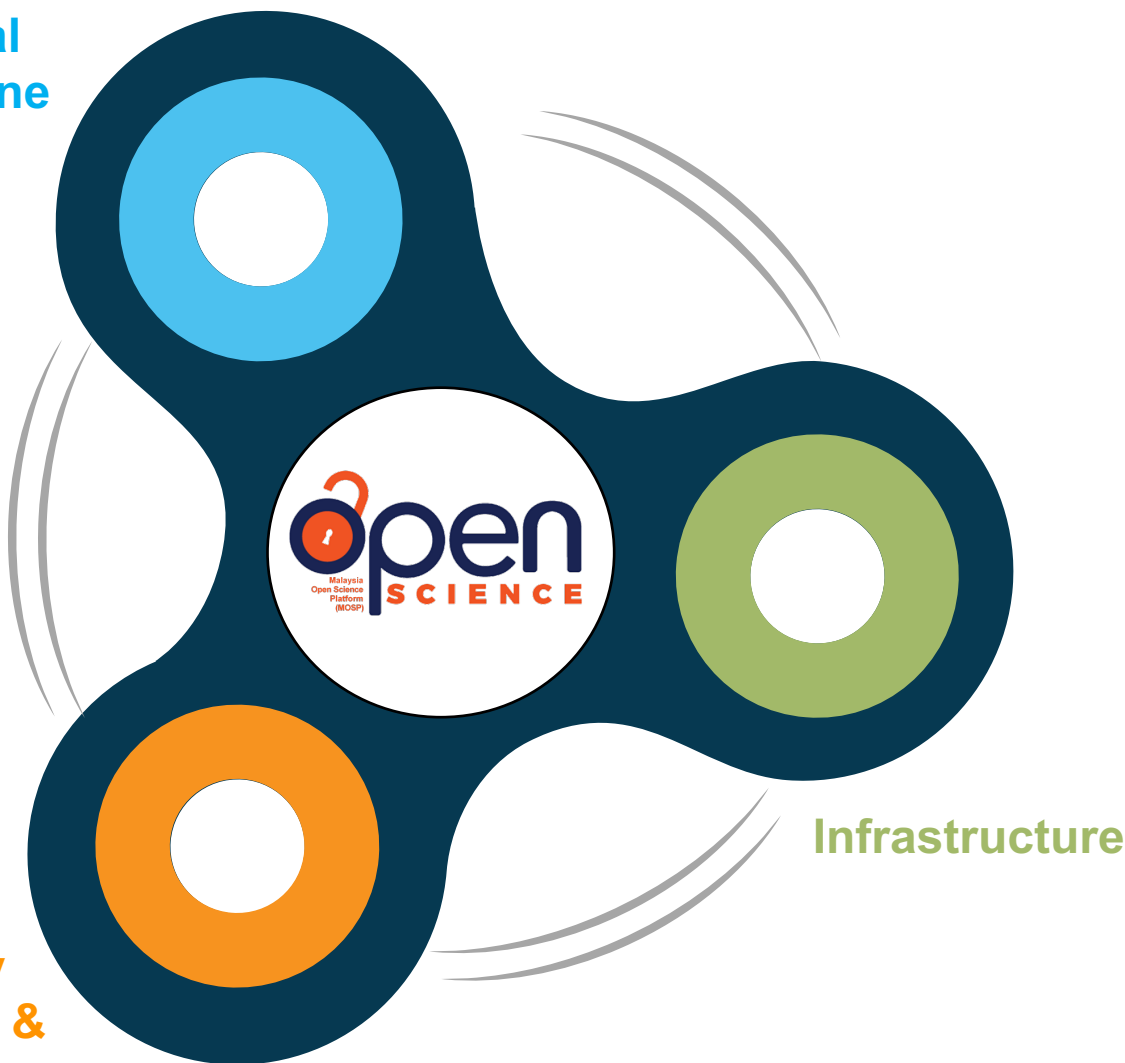
## People

**People** are the main driver for the Open Science initiative that determines its success

- Our researchers – who produce the data
- Our data steward – who manage and curate the data
- Our data custodian – who safeguard the data
- The data user – who will be benefit from the wealth of the data been shared by researchers

# MOSP Focus Areas

National  
Guideline



Capacity  
Building &  
Awareness

## TARGETS:

1. To develop one Landscape Study on Open Science in Malaysia by end of 2020
2. To develop one National Guidelines on Open Science by end of 2020
3. To train 200 data stewards by July 2021
4. To reach 500,000 people and raise awareness about Open Science
5. To develop and execute one Platform for raw research data sharing by 2021



# Engagement of MOSP with International Agencies working on Open Science



Open Science Forum for Asia and The Pacific, 13 Feb 2020



Dialogue on Open Science, 14 Feb 2020

MOSP has been in consultation with other open science initiatives globally such as Australia's ANDS, OECD, ISC-CODATA, and Japan's RCOS to learn best practices of Open Science and to get their support to materialise MOSP.



International  
Science Council



## Draft PPSTI Statement on Open Science

The Policy Statement on Science, Technology and Innovation Communication endorsed by the 2017 APEC PPSTI-10 in Viet Nam recognized the importance of open science and open access and the need to set clear policies that will help increase the returns from public and private investment, reinforcing cooperation and open scientific inquiry, as evidenced by the COVID-19 pandemic, and promoting research in new areas, which can have regional and global benefits.

Open Science represents an approach to the scientific process which is based on cooperative work and new ways of disseminating knowledge by using digital technologies and new collaborative tools. The idea captures a systemic change to the way science and research have been carried out for the last fifty years: complementing the standard practices of publishing research results in scientific publications by sharing and using all available knowledge at an earlier stage in the research process.

The recent response of the scientific community to the COVID-19 pandemic has demonstrated how Open Science can accelerate scientific solutions to a global challenge. The genetic sequence of the SARS-CoV-2 virus was posted in an open access repository and made freely available for all researchers. Several companies also made the designs for protective face shields open-source, allowing these shields to be freely 3D printed in cities and societies where they are needed the most.

Open Science does not require that all data are fully open and accessible. They should be available under well-defined conditions and that is why we support the FAIR guiding principles, rendering data Findable, Accessible, Interoperable and Reusable. Our emphasis also includes the collective benefits, authority to control, responsibility and ethics, including principles such as the CARE Principles for Indigenous Data Governance. These principles will cultivate a culture of openness and transparency, whilst at the same time ensuring ethics and integrity are maintained.

Pursuant to this, we recognise that Open Science has a vital role in fostering sustainable and inclusive economic growth and development, bringing with it the full benefit of innovation. This can only be realized by increasing the commitment of the public and private sector to a robust Open Science ecosystem which will underpin the aspirations of society for a more equitable sharing of scientific information.

21 Aug 2020, Kuala Lumpur

# OPEN SCIENCE IS HERE TO STAY

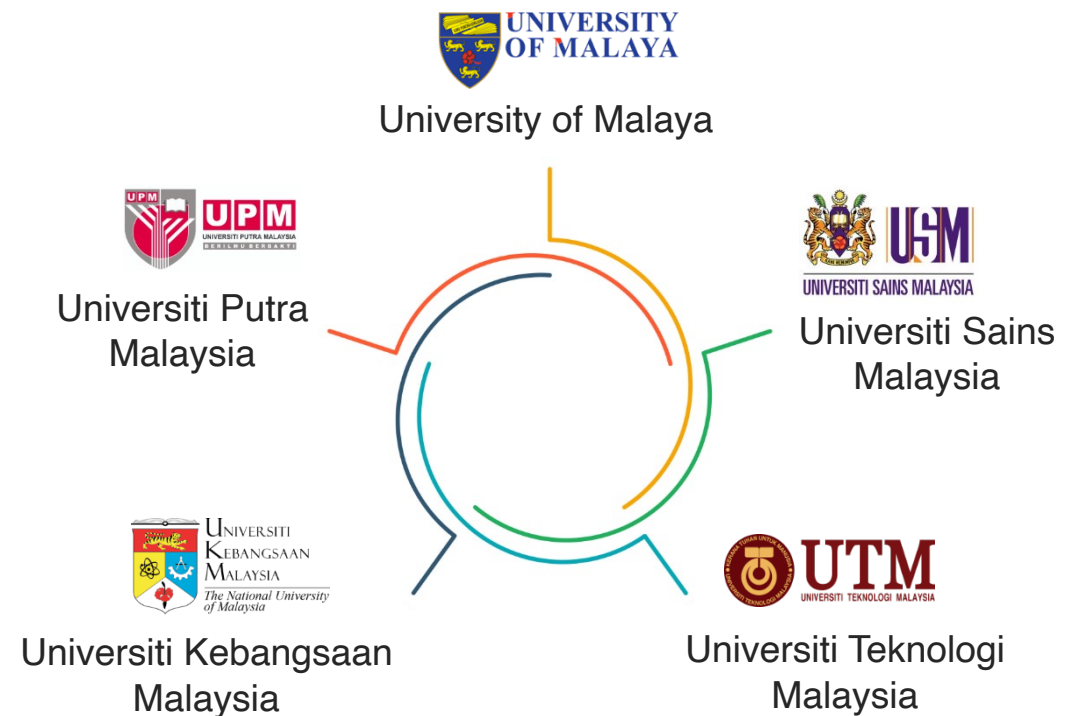
(Excerpt from the Joint Statement Endorsed by APEC Community)

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2. Pursuant to this, we recognise that Open Science has a vital role in fostering sustainable and inclusive economic growth and development, bringing with it the full benefit of innovation. This can only be realized by increasing the commitment of the public and private sector to a robust Open Science ecosystem which will underpin the aspirations of society for a more equitable sharing of scientific information.

# Malaysia Open Science Alliance

## Pilot Initiative: Linking Platform for sharing of Research Data

1. Academy of Sciences Malaysia (ASM)
2. Ministry of Science, Technology and Innovation (MOSTI)  
– Malaysia Science and Technology Information Center (MASTIC)
3. Malaysian Administrative Modernisation and Management Planning Unit (MAMPU)
4. Ministry of Health Malaysia (MOH)
5. Ministry of Higher Education (MOHE)
6. Malaysia Research University Network (MRUN)
  - i. University of Malaya
  - ii. Universiti Sains Malaysia
  - iii. Universiti Teknologi Malaysia
  - iv. Universiti Kebangsaan Malaysia
  - v. Universiti Putra Malaysia
7. International Science Council Regional Office for Asia and the Pacific (ISC ROAP)

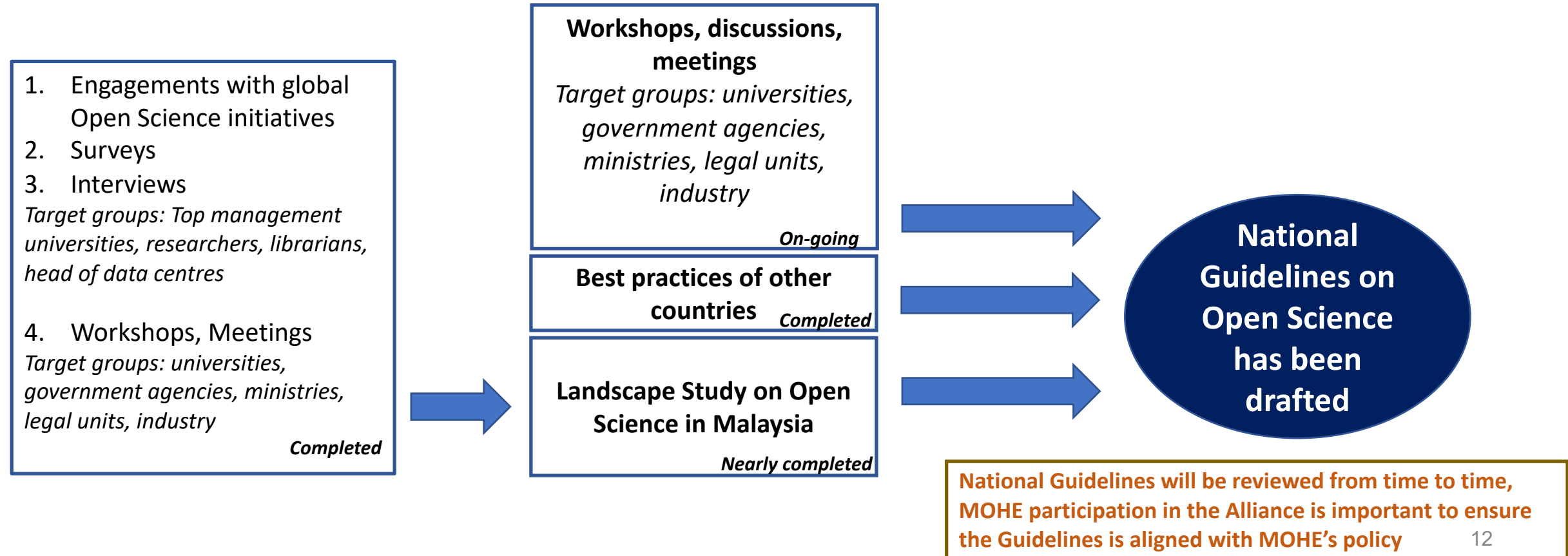




# National Guidelines for Open Science

## Targets:

1. To develop one Landscape Study on Open Science in Malaysia by end of 2020
2. To develop one National Guidelines on Open Science by end of 2020

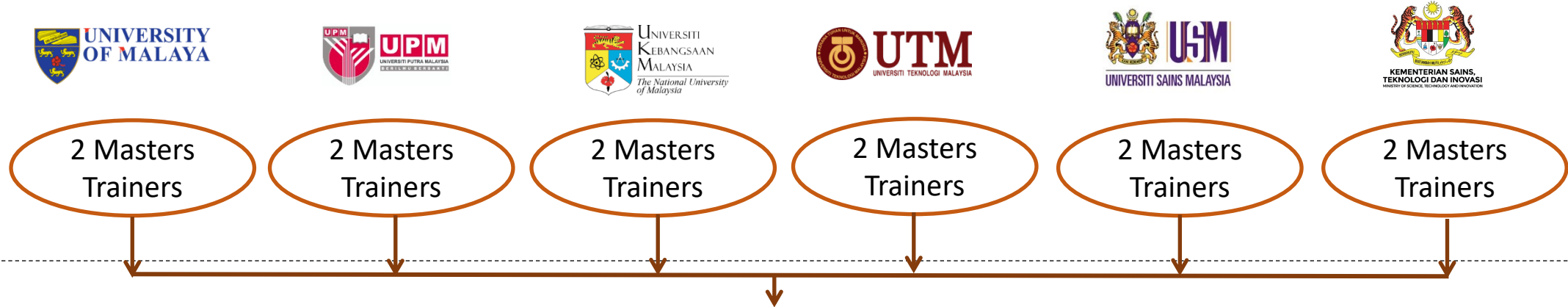




# Training of Trainers Program for Data Stewardship on Open Science

**Target: To train 200 data stewards by July 2021**

Trained by  
eLearning Curve  
(online),  
certified by CIMP  
Jun-Sept 2020  
*Status: Completed*



Trained by Masters Trainers (online)		
ToT Program	SERIE 1	SERIE 2
Duration	09/2020-01/2021	03/2021 – 06/2021
Target trained data stewards	50 56 was trained	150 178 current participants
Target groups	Librarians & research managers	Researchers, librarians, & research manager
Institutions	5 Research Universities and agencies under MOSTI	Higher learning institutes (public & private), research institutes and agencies

# Awareness about Open Science

**Target: To reach 500,000 people and raise awareness about Open Science**

## Website & Social Media updates

### Infographics:

1. Malaysia Open Science Platform
2. Future careers in Open Science
3. Research data lifecycle

### Events:

1. Launching of MOSP (7 Nov 2019)
2. Open Science Forum for Asia and the Asia Pacific (13 Feb 2020)
3. Dialogue on Open Science (14 Feb 2020)
4. APEC Policy Sharing Webinar on Open Science (21 Aug 2020)
5. Asia-Pacific Online Regional Consultation Towards a UNESCO Recommendation on Open Science (15 Sep 2020)
6. Citizen Science from Malaysia's Perspective (05 Oct 2020)
7. Webinar on Open Science by UM (11 Jan 2021)
8. Open Science Symposium @ USM (4 March 2021)
9. K-Sharing: Normalizing Open Science by UTM (30 March 2021)

*Completed*

## Video promotions

## Newspaper articles

## Media appearance

## Webinars on Open Science

## Side events/roadshows

*Planning*

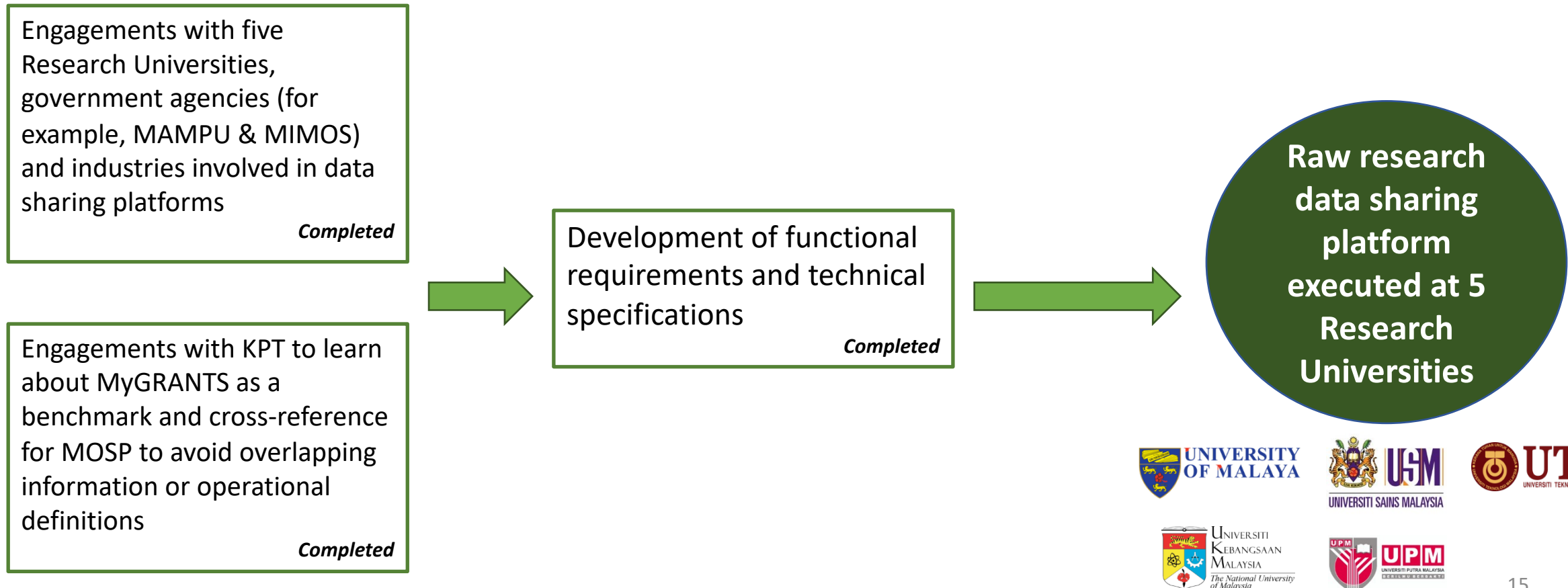
**500,000  
people  
reached by  
end of 2021**

MOSTI nominated Prof Dr Noorsaadah Abd Rahman FASc as a representative for Malaysia at UNESCO Open Science Advisory Committee

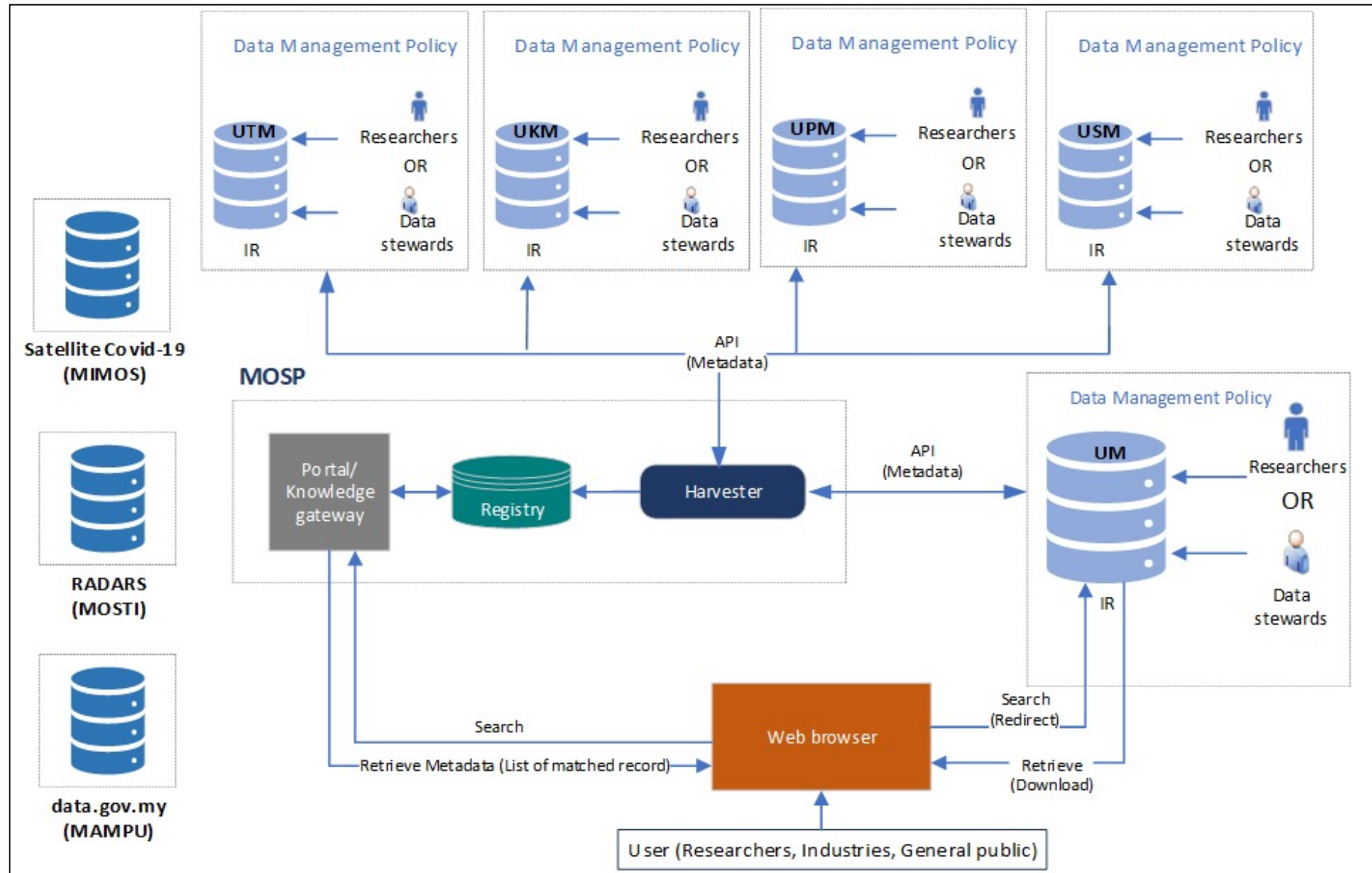
# Infrastructure development

## Target:

To develop and execute one Platform for raw research data sharing by 2021



# MOSP Architecture (Pilot Project)



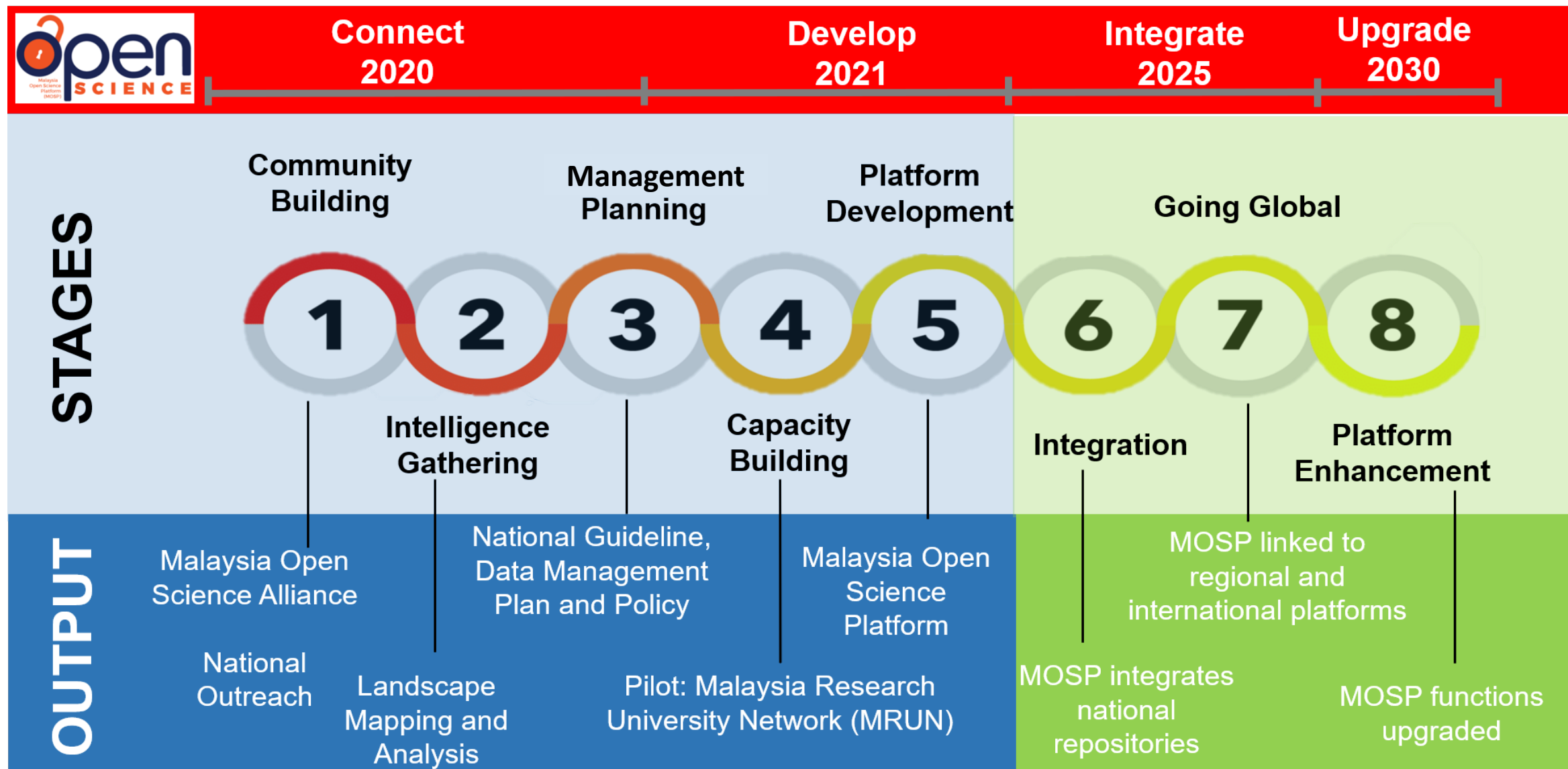


# UNESCO Recommendation on Open Science

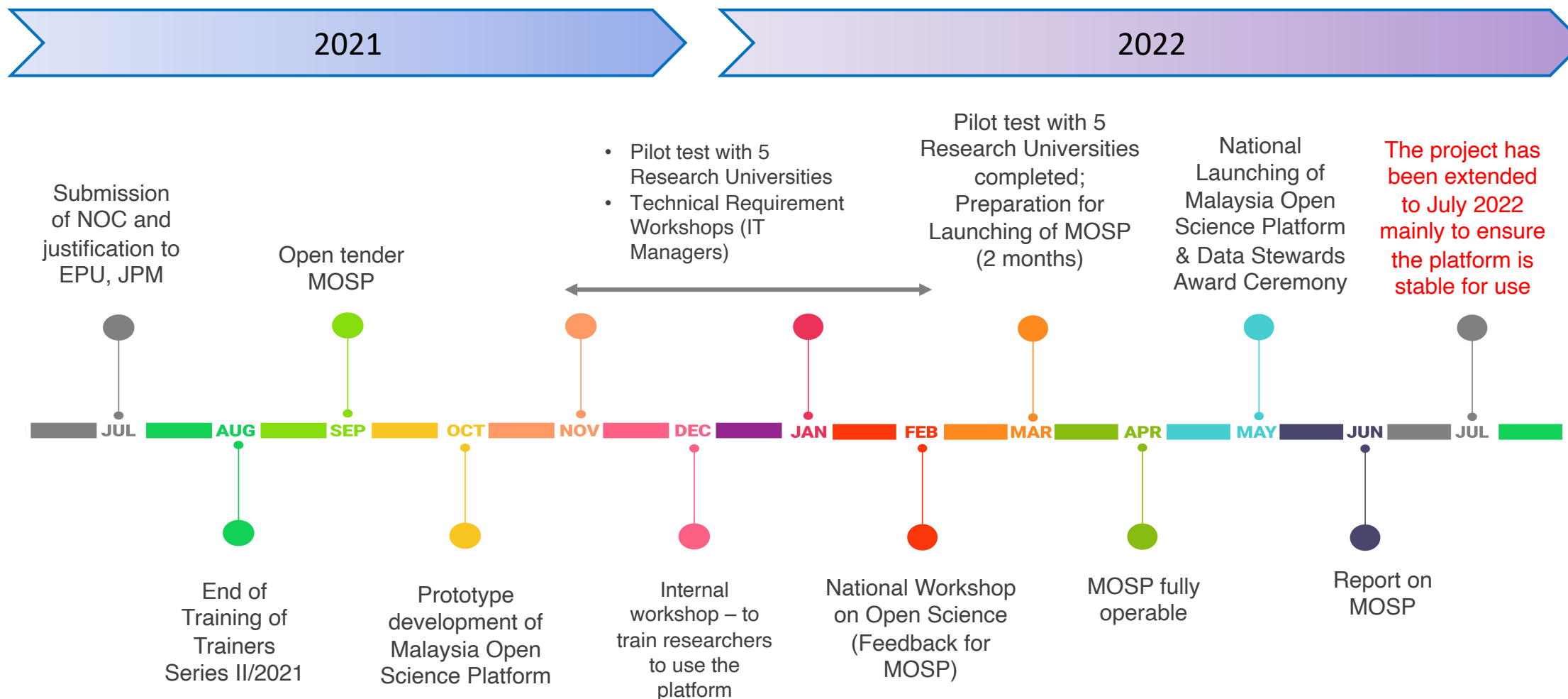
1. promoting a common understanding of Open Science, associated benefits and challenges, as well as diverse paths to Open Science;
2. developing an enabling policy environment for Open Science;
3. investing in Open Science infrastructures and services;
4. investing in human resources, education, digital literacy and capacity building for Open Science;
5. fostering a culture of Open Science and aligning incentives for Open Science;
6. promoting innovative approaches for Open Science at different stages of the scientific process;



# MOSP Activity and Timeframe



# MOSP 2021-2022 Timeline

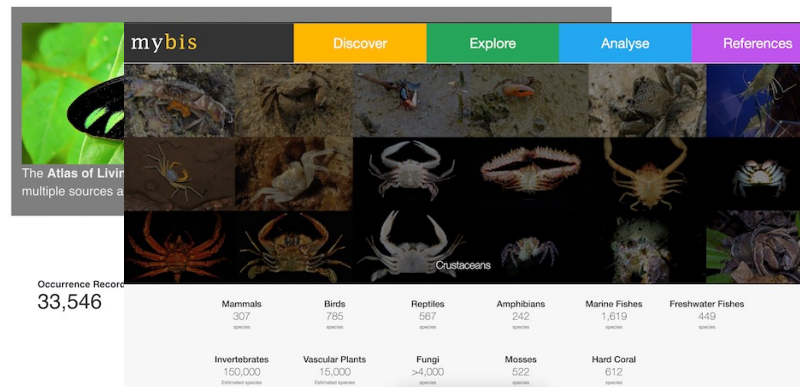


# BioD Open Science Initiatives

ALAM Atlas of Living Malaysia

Search ALAM ...

Start exploring Search & analyse Participate Learn about ALAM



04

Step 4

Connect & Share with world-wide infrastructure and communities

03

Step 3

Development of e-curation platform MyTXBB

02

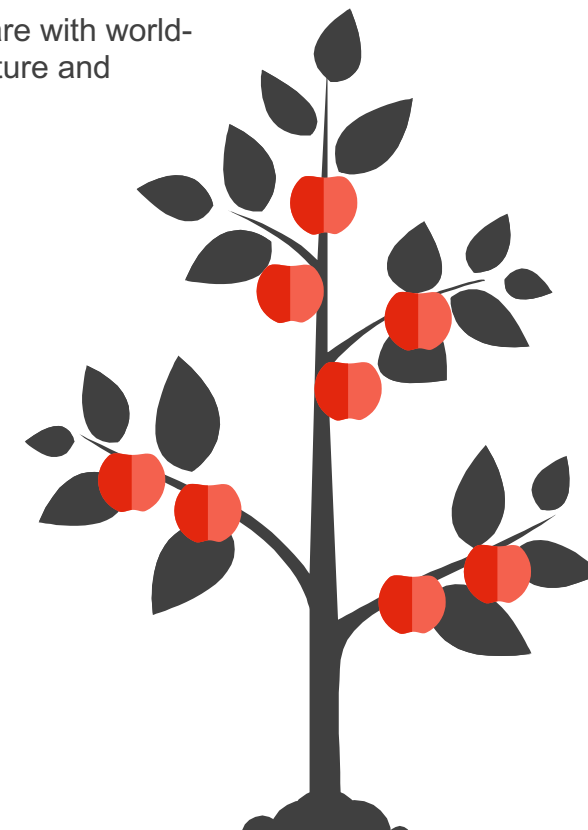
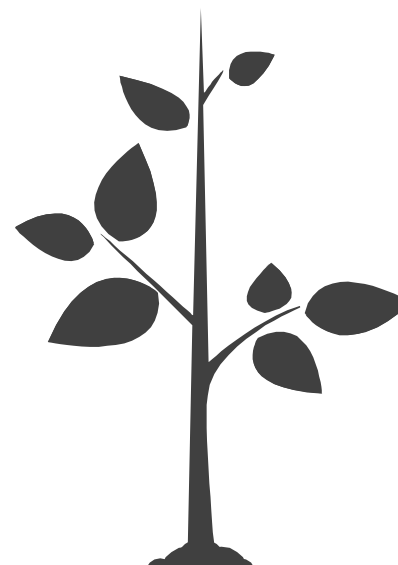
Step 2

Digitisation of BioD collection and data stewardship capacity building

01

Step 1

Lay the foundation by developing the BioD Stewardship Guideline





# UM Open Science Journey & Involvements

UM's Involvement in  
National/International  
Initiatives

MOHE MRMG  
project - research  
data  
management  
(2015)

Open Science  
Consortia  
formation at ISC  
and ASM

APEC Open  
Science Initiative  
– with CODATA

MOSP Formation  
& launching

APEC Open  
Science Forum  
- A joint statement  
on Open Science

ASM data steward  
training (cohort 1-  
UM sent 15  
participants)

ASM-ISC Biodiversity in Tropics  
Open Science Project

Global Open Science Cloud  
- Technical Infrastructure WG

2015 - 2018

2019

2020

2021

2022

Forming a task  
force to study  
the data  
management  
issues in UM  
(2018)

Forming 2 task  
forces:  
- *Research Data  
Management* (to  
craft the UM  
RDM Policy)

- *Enterprise Data*

Forming UMOS  
steering  
committee and  
working task  
force

UM RDM Policy  
endorsed by BOD

Design UM RD  
governance model  
and RDM  
framework &  
processes

Data stewards  
Capacity building

Forming data  
steward unit

Launch UMOS  
platform


Campus-wide RDM  
roll out

**Policy**

**Process & People**

**Platform**

UM Journey



**“The best collaborations  
create something bigger than  
the sum of what each person  
can create on their own.”**

## Thank You

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The Academy of Sciences Malaysia:



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