



United Nations
Educational, Scientific and
Cultural Organization

NATURAL SCIENCES

SDGs implementation of UNESCO' Science Sector in Asia and the Pacific

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UNESCO

Natural Science Sector
Regional Science Bureau for Asia and the Pacific

Ardito M Kodijat
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Harness science, technology, innovation and knowledge for sustainable development goals

Research and training in life sciences, climate change, natural disasters and water quality.

Use STI to improve food and water security.

Harness STI to address poverty-related challenges, such as access to clean energy, agriculture, health and water services.

Foster access to STI, provide targeted capacity building, strengthen multi-stakeholder partnerships and support data monitoring and reporting.

Promote international scientific cooperation and peacebuilding, including through the management of transboundary water resources and transboundary Biosphere Reserves and UNESCO Global Geoparks.

Enable conservation and sustainable use of the ocean through the Biosphere Reserves in Marine, Island and Coastal Areas.

Science, technology, engineering and mathematics education (STEM); and education for sustainable development (ESD) as part of quality education.

GLOBAL PRIORITY

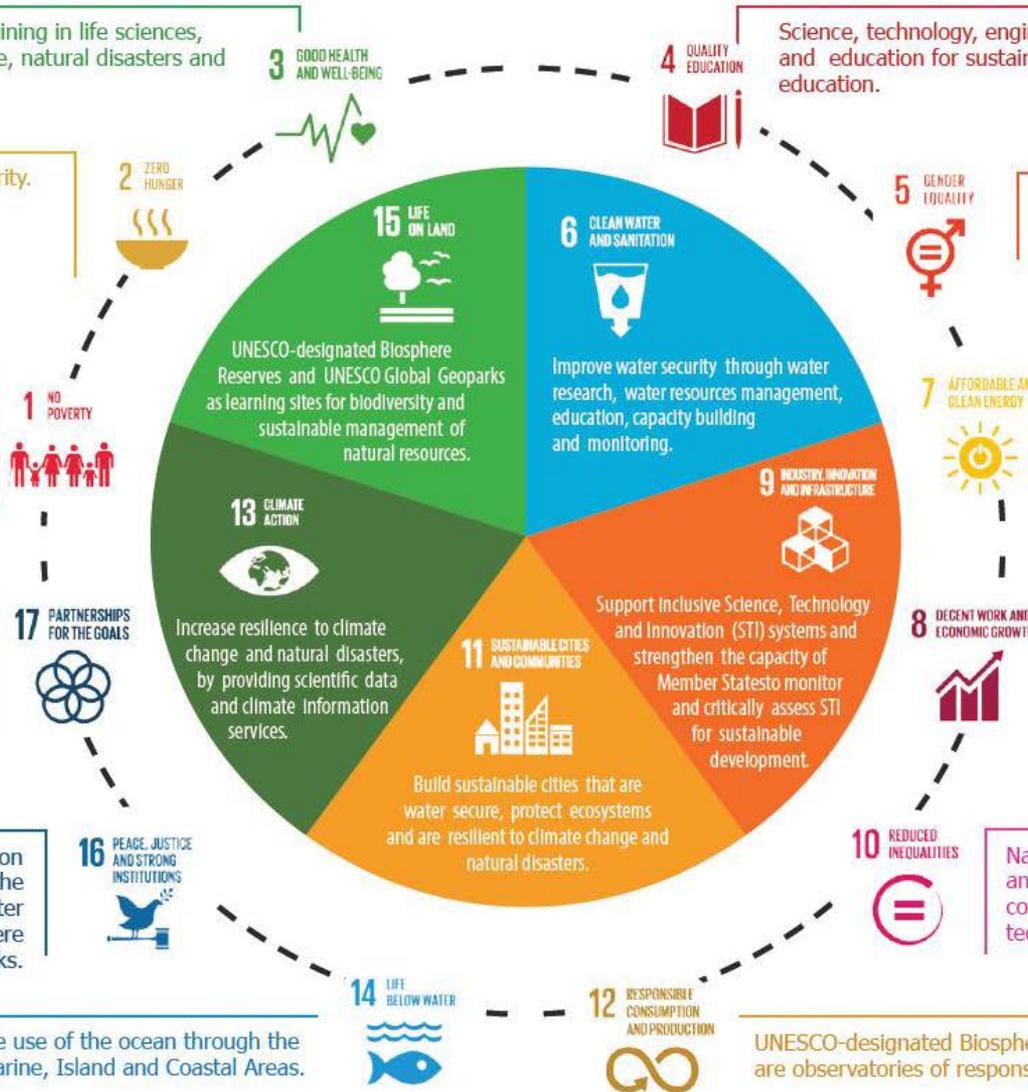
Increase the participation of women in STI, including through STEM and Gender Advancement (SAGA).

Improve access to clean energy through inclusive STI systems.

Strengthen institutional and human capacities in science, technology and innovation to foster decent work and economic growth.

Narrow the STI gap between developed and developing countries to ensure that all countries fully benefit from scientific and technological progress and innovation.

UNESCO-designated Biosphere Reserves and UNESCO Global Geoparks are observatories of responsible consumption and production.



Global Frameworks

SUSTAINABLE DEVELOPMENT GOALS



Sectoral Policy: i.e. Paris Agreement

Continental Policy: i.e. Agenda 2063



Sendai Framework for Disaster Risk Reduction

2015 - 2030

Natural Sciences for the 2030 Agenda

Harnessing the **sciences**, including the **basic sciences**, **technology**, and **innovation** and **knowledge** for sustainable development



Advancing science for sustainable management of **natural resources**, **disaster risk reduction** and **climate change action**



Improving knowledge and strengthening capacities at all levels to achieve **water security**



Context

- (i) failure of **climate change** mitigation and adaptation; extreme weather events;
- (ii) **natural disasters**, man-made environmental disasters;
- (iii) **biodiversity** loss and ecosystem collapse, and;
- (iv) **water** crises.

Global risks report 2019 (World Economic Forum)

IPCC

IPBES

WWDRs

Climate change as a
socio-economic issue



SIDS and Africa
bearing the
heaviest burden

- pressure on natural resources
- many conflicts and instances of violent extremism have their source in an uneven distribution of natural resources
- people being displaced for lack of water, food and consequently job opportunities

Context

Need for a global science, technology and innovation governance

- science diplomacy (SESAME, Global report on Biodiversity, Water diplomacy);
- international normative framework in STI (open science)

Need for STI and evidenced based policies



Examples of relevance in the global agenda

➤ Highlights of the Final draft of the Political Declaration of the UN SDG Summit (24 - 25 September 2019)

- **Harnessing STI, with focus on digital transformation**
- **Reducing disaster and building resilience**
- **Investing in data and statistics for the SDGs**

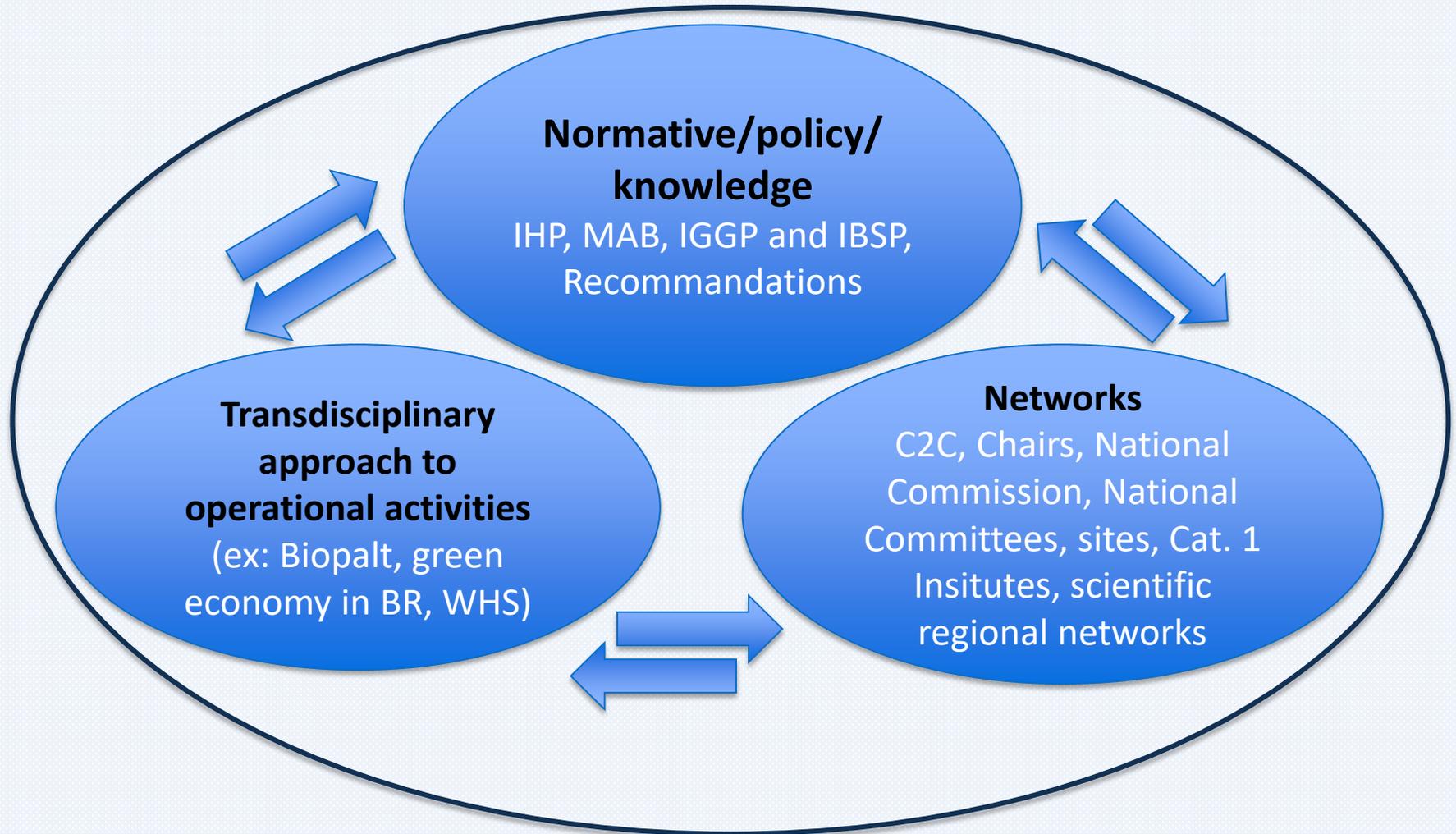


➤ MOPAN's Global Performance and Findings:

- UNESCO is a **global leader in knowledge and practice**. UNESCO leads **policy development** in a broad range of fields, **Global Geoparks and freshwater use**, [...].
- UNESCO is strong at **mainstreaming gender equality** (e.g. women in science and sport, climate change, and education) and **interdisciplinary issues such as climate change**
- It has convening roles in relation to **global work on freshwater**



Convening power of science – Science diplomacy



Future Reflection

1. How to better reposition UNESCO in the 2030 Agenda, the 2063 African Union Agenda, the Paris Agreement, the Sendai Framework and the Addis Ababa Action Agenda?
2. How to best ensure UNESCO's support to the Member States in the implementation of these Agendas in its various domains? How to best support countries to access Science Technology & Innovation for sustainable development?
3. How to empower women scientists?
4. How to connect UNESCO science structures? Are tools tailored to address the national science context?
5. What role for UNESCO in the broad global responses to environmental crises, biodiversity and habitat loss? How science provides the baseline and the potential solutions?
6. What capacities are needed for sustainable and peaceful natural resource management?
7. How we see Science Diplomacy fit in with the global UN 2030 agenda?
8. What opportunities for a more integrated and transdisciplinary UNESCO activities that are inclusive, participatory, as well as Climate-neutral and climate-friendly?
9. What tools do we need to measure impact of the Science initiatives?

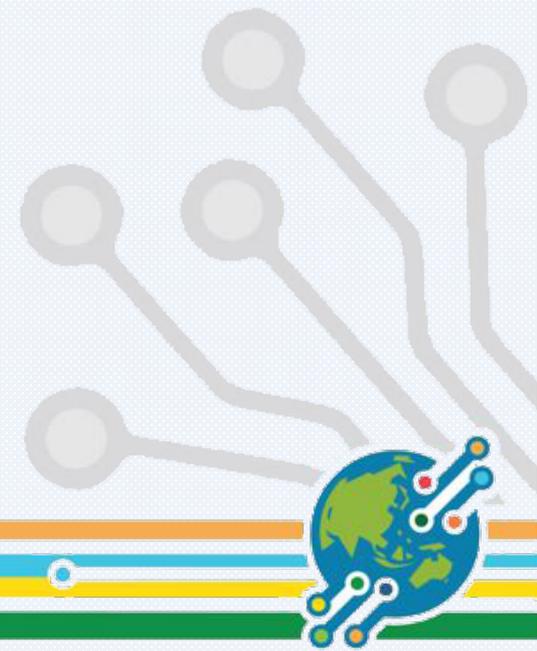


STI Challenges in Asia Pacific

AP-FAST

Facility for Accelerating Science and Technology in Asia and the Pacific

- Weak STI culture and low government spending
- Inadequate S&T human resources engaged in R&D
- Difficulty in increasing employment opportunities and retaining S&T human capital
- Absence of a vibrant intellectual property culture
- Weak linkages among players in the STI ecosystem
- Restrictive regulations that hamper the implementation of R&D programs and projects
- Inadequate STI infrastructure
- Lack of international or regional cooperation



FACILITY FOR ACCELERATING SCIENCE AND TECHNOLOGY (FAST)
TO FOSTER THE IMPLEMENTATION OF THE SUSTAINABLE DEVELOPMENT GOALS
IN ASIA AND THE PACIFIC AND LAUNCHING OF ASIA PACIFIC - FAST



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APFAST Framework



UNESCO's Category 1 & 2 Centres

1
Targets & Indicators

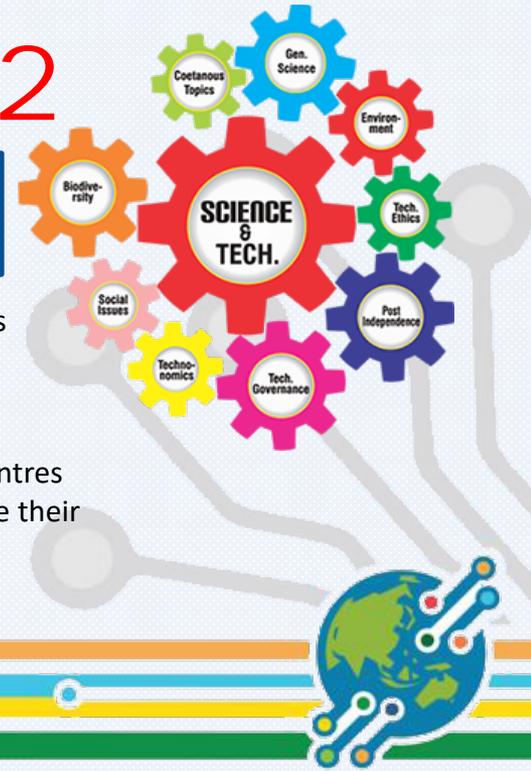
3
Potential UNESCO SETI Supports

2

SETI to accelerate the achievements of Targets and Indicators



Country's NAP
Country's S&T capacity

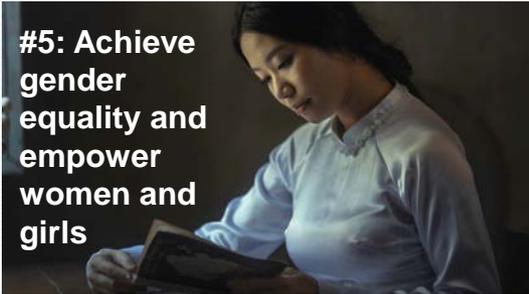


1. Identify the links between country's NAP and SDGs Target and Indicators and country's SETI Capacity.
2. Identify what SETI is needed to accelerate the achievements of the target and indicators.
3. Identify how SETI in UNESCO's programme and Centres could contribute to support countries to accelerate their S&T in achieving the SGD and NAP targets and indicators.

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Area Focus of APFAST

#5: Achieve gender equality and empower women and girls



#6: Ensure access to water and sanitation for all



#11: Make cities inclusive, safe, resilient and sustainable



#13: Take urgent action to combat climate change and its impacts*



#14: Conserve and sustainably use the oceans, seas and marine resources



#15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss



#17: Revitalize the global partnership for sustainable development



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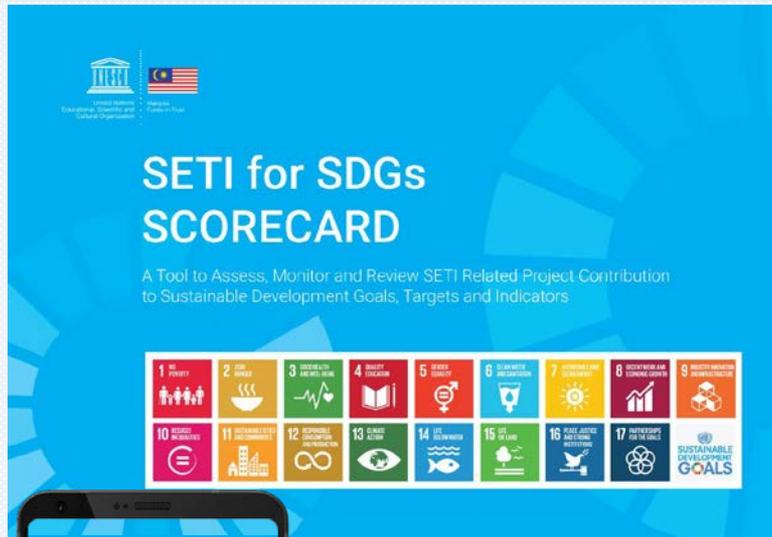
STI Target and Indicators in 7 SDGs

AP-FAST Area of Focus includes 35
Targets in 7 SDGs:
5,6,11,13,14,15 & 17

AP-FAST Area of Focus includes 20
Indicators in 7 SDGs:
5,6,11,13,14,15 & 17



AP-FAST Scorecard SETI for SDGs



**Mobile Application
Under development**



- The SETI Scorecard is an enabling tool which provides users an instrument where they can explicitly express the **detailed contribution of each of their respective projects' outputs** towards the attainment of the SDGs.
- The SETI Scorecard will guide SETI champions, funding institutions, policy makers, and other stakeholders in **defining and evaluating the relevance of all SETI Projects** in the global goal of sustainability.

THE SETI for SDG SCORECARD

Project Title:	
Location	
Implementor:	
Duration of the Project:	

SCORECARD FOR SETI PROJECTS IN TERMS OF ITS RESPONSIVENESS TO SDGs

1. OBJECTIVES OF THE PROJECT	2. MAJOR OUTPUTS OF THE PROJECT BASED ON THE OBJECTIVES (Derived or Prospective)	3.a SDG	3.b SDG TARGET	3.c SETI-related SDG Indicator	4. IMPACT TO THE ATTAINMENT OF THE SDG TARGET		5. REMARKS		6. RATING (3,2,1)		7. RESPONSIVENESS SCORE [(Likelihood * Relevance) * (1 if Direct impact, 0.5 if Indirect impact)]
					Direct	Indirect	5.a Indicate baseline data if available as reference for rating the Likelihood of accomplishment according to the project timeline	5.b Indicate how the outputs will directly or indirectly contribute to the attainment of SDGs	6.a Likelihood	6.b Relevance	
1.	1.										
2.	2.										
....											8. AVERAGE RESPONSIVENESS SCORE = Total Responsiveness Score/Total # of ratings





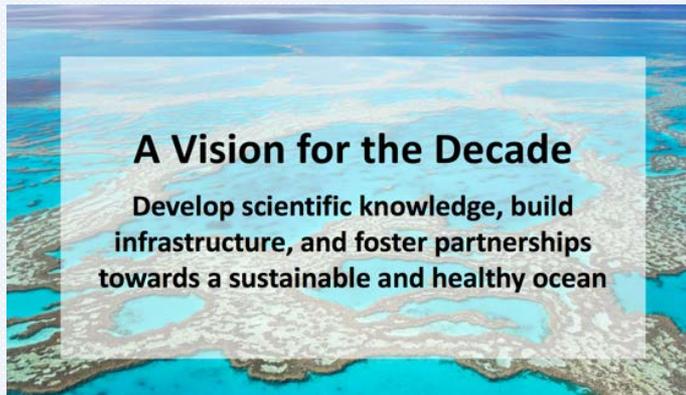
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INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION OF UNESCO (IOC)

Direction



2021 United Nations Decade
2030 of Ocean Science
for Sustainable Development



The United Nations
Decade of Ocean Science
for Sustainable Development
(2021-2030)



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Mission Orientation



A safe Ocean

Human communities are protected from ocean hazards and the safety of operations at sea and on the coast is guaranteed.



A Sustainable Productive Ocean

The provision of food supply and alternative livelihoods are secured.



A transparent and accessible Ocean

All nations, stakeholders and citizens have access to ocean data and information, technologies, and are capable of making informed decisions.





Societal Outcomes



A Clean Ocean

Sources of pollution are identified, quantified and reduced, and pollutants removed from the Ocean.



A healthy and resilient Ocean

Marine ecosystems are mapped and protected, multiple impacts, including climate change, are measured and reduced, and the provision of Ocean ecosystem services is maintained.



A predicted Ocean

Society has the capacity to understand current and future Ocean conditions, forecast their change and impact on human wellbeing and livelihoods.





Principles: Inclusive & transformative, focused on solutions

Science breakthroughs → top-down designed

- Mapping
- Observations
- Eco-systems
- Data and Information
- Multi-Hazard Warning Systems
- Ocean in Earth System Science
- CD, Education, Ocean Literacy

Pickup by practice → stimulated bottom-up



Coastal zone management



Marine Spatial Planning/
Blue economy



Fishery management



Disaster Risk Reduction
(Re-)insurance



Adaptation Mitigation



Governance:
Policies
Peace
Security

Solutions



Input Need Application



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Thank You



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