Pagtanaw 2050 in NSTW: A peek at where PH innovations stand today

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Select Pagtanaw 2050 technologies are already deployed in the Philippines, from electric mobility, support for MSMEs leveraging local products, smart and sustainable farming, to nanosatellite deployment and imagery. (Design by Karl Jerome M. del Mundo)

Eight years into the Philippines' PAGTANAW 2050—the country's first-ever foresight plan to empower national development through science, technology, and innovation (STI), where does it stand today?

Pagtanaw 2050, from the Filipino word for looking ahead, is the country's 30-year STI strategic plan, spanning from 2019 to 2050 and designed as an evidence-based tool for national progress through STI.

But where are we now in terms of development following the 30-year plan?

This will be tackled at the 2026 National Science, Technology, and Innovation Week (NSTW) to be led by the Department of Science and Technology's (DOST) National Academy of Science and Technology Philippines (NAST PHL).

Dubbed as "Pagtanaw 2050: The Philippine Foresight on Science, Technology, and Innovation," which will be held at the Greenleaf Hotel, General Santos City, on November 28, 2026, alongside with other forums underscoring this year's NSTW theme: Science, Technology, and Digital Innovation: Driving Food Security, Sustainable Energy, and National Resilience.

File photo of the official cover page of the *Pagtanaw 2050: The Philippine Foresight for Science, Technology, and Innovation*.

PAGTANAW 2050 began as a challenge from former DOST Secretary Fortunato de la Peña to NAST PHL, and was completed and officially published in September 2021.

Particularly, it laid out various STI roadmaps to guide in government policy development, legislative reforms, national budget allocations, and research and development investments.

It continuously gathers and analyzes current local and global STI trends and developments and maintains ongoing dialogues on scientific initiatives to provide timely intelligence for better policymaking.

DOST-Caraga installs Smarter Approaches to Reinvigorate Agriculture as an Industry (SARAI), a technology that integrates satellite data, drone imagery, and artificial intelligence to forecast micro-climates, advise on crop protection and planting for better farming yield, in Surigao del Sur. (Photo from National Irrigation Administration - Caraga Region)

“This is firmly grounded in the Filipino people’s aspirations within the context of our natural and physical endowments [...] as well as our shared Filipino values and skills, and other potentials as contained in our Constitution and other national institutions,” de la Peña wrote in the foreword.

The foresight aims to steer the country’s economic direction towards leveraging its geographic foundations—positioning aquatic and marine resources and the Blue Economy at the center of development plans.

Pagtanaw 2050 opts to tackle major socioeconomic needs and challenges of the Philippines, specifically including poverty reduction, food security, clean energy, climate resilience, universal healthcare, and digital infrastructure.

These points trace the existing national and global development frameworks such as the 1987 Philippine Constitution, the national initiative of AmBisyon Natin 2040, DOST-led Harmonized National R&D Agenda (HNRDA), and the United Nations' Sustainable Development Goals (SDGs).

What it does

Pagtanaw 2050 outlined the current, emerging, and frontier technologies to help focus on the following aspects: digital technology, artificial intelligence (AI), blue energy and marine technologies, food security through genomics and smart farming, health and biomedical advancements, clean energy, space exploration, geospatial applications, smart mobility, and public governance.

Of these, several specific technologies, programs, and infrastructure have already been cited as achieved, operational, and/or currently implemented in the Philippines.

These include space technology and remote sensing, pioneered by the establishment of the Philippine Space Agency (PhilSA) in 2019 and leveraging satellite data for disaster risk management and weather forecasting.

Visualization of Diwata-1, the first-ever Filipino-made nanosatellite launched in 2016 to capture satellite photos that can be used for disaster preparedness and response, environmental conservation, and analysis.

These geospatial data, coupled with those from radar stations, real-time monitoring, and volcano and earthquake monitoring systems, operated by the DOST Philippine Volcanology and Seismology and the Philippine Atmospheric, Geophysical and Astronomical Services, are currently used for disaster early warning networks.

Left: DOST-PHIVOLCS demonstrates the interface of GeoRiskPH, a platform for natural hazards and risk assessment using geospatial information and tools for better disaster management and decision-making. (Photo from DOST-PHIVOLCS); Right: MB Dalaray, the DOST-made electric ferry, sails on Pasig River. (Photo from MB Dalaray Ferry - Facebook Page)

The national government has also implemented advanced manufacturing and transport, from DOST-Metals Industry Research and Development Center's (MIRDC) Advanced Manufacturing Center (AMCen) 3D printing to the department-led push for e-mobility vehicles such as e-trike, c-trike, e-tranvia, and e-ferry.

Moreover, various legislations in relation to STI and research and development have already been enacted as well: the Philippine Innovation Act (RA 11293), Innovative Startup Act (RA 11337), Philippine Technology Transfer Act (RA 10055), and the Balik Scientist Act (RA 11035).

About NSTW

The Pagtanaw 2050 is one of the highlights of the National Science, Technology, and Innovation Week (NSTW), an annual celebration organized by the Department of Science and Technology (DOST) that highlights the country's scientific and technological achievements, research and development (R&D) projects, and innovative solutions. The event brings together researchers, innovators, industries, government agencies, academe, and communities to showcase how science, technology, and innovation (STI) contribute to inclusive, sustainable, and resilient national development. The NSTW serves as a platform for promoting homegrown technologies, strengthening collaboration among STI stakeholders, and bringing science-based solutions closer to Filipinos. This year's

NSTW will be held on November 25–29 in General Santos City, South Cotabato. For more information, visit www.nstw.dost.gov.ph or the NSTW Facebook page.

Students of Pangasinan State University participate in a food packaging training led by the DOST Food Innovation Center. (Photo from Food Innovation Center)

MEDIA RELEASE

A farmer uses a Rice Combined Harvester, a harvesting machine that combines harvesting, threshing, cleaning, and bagging in one operation. (Photo from DOST Technology Transfer - Website)