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# MALAYSIAN NUCLEAR AGENCY (NUCLEAR MALAYSIA)



**Nuclear Technology Propels the Nation Vision**

HISTORY AND ROLE

AIMS AND MAIN FACILITIES

RESEARCH AND TECHNOLOGY DEVELOPMENT

PRODUCTS AND SERVICES

MAP AND DIRECTORY



## THE HISTORY

Malaysian Nuclear Agency (Nuclear Malaysia) has a role to introduce and promote the application of nuclear science and technology for national development.

Established in 19 September 1972, Malaysian Nuclear Agency was then known as Centre for Application of Nuclear Energy (CRANE) before it was formally named as Tun Ismail Atomic Research Centre (PUSPATI).

In June 1983, PUSPATI was placed under the patronage of Prime Minister Department and was called Nuclear Energy Unit (UTN). It was then placed under the Ministry of Science, Technology and Environment in October 1990. In August 1994, its name was changed to Malaysian Institute for Nuclear Technology Research (MINT).

On 28 September 2006, following its restructuring, MINT was given a new identity, which is Malaysian Nuclear Agency (Nuclear Malaysia). Its strategic location, near higher learning institutions, colleges and national training institutions, besides its close proximity to the National Administration Centre, Putrajaya, and the Multimedia Super Corridor, Cyberjaya, has stimulated Nuclear Malaysia to meet its aspirations.



## MALAYSIAN NUCLEAR AGENCY (NUCLEAR MALAYSIA))

Malaysian Nuclear Agency (Nuclear Malaysia) is a reputable agency in research and development (R&D) in science and technology. Its presence is synonymous with the development, augmentation and advancement of nuclear science and technology in Malaysia.

Since its establishment, Nuclear Malaysia has been given the responsibility to introduce and promote nuclear science and technology for national development, and until the present, Nuclear Malaysia maintains its significance as an outstanding organisation in science, technology and innovation.

Nuclear Malaysia plays a pivotal role in providing quality and best-in-class research towards comprehensively generating new technologies to meet the needs of nuclear technology's variety of applications. This standing is acquired through professional workforce training and discipline, well-planned infrastructure, and well-resourced research laboratories.

To achieve excellence in R&D and services in nuclear technology, Nuclear Malaysia provides a conducive research environment to produce substantial achievement, a feat to be proud of.





## THE AIMS AND FUNCTION

### Vision

Nuclear science and technology for knowledge generation, wealth creation, and societal and national well-being.

### Mission

Excellence in research and applications of nuclear technology for sustainable development.

### Objectives

- To generate new products and technologies through research and innovation based on the national development agenda.
- To achieve an income, at minimum 30% of the annual operating budget, through transfer and commercialisation of technology.
- To enhance organisational excellence through planning and quality management.

### Main Functions (P.U. (A) 312)

- To conduct research and development (R&D), services and training in the field of nuclear technology for national development.
- To encourage application, transfer and commercialisation of nuclear technology.
- To coordinate and manage the national and international nuclear affairs, and acts as the liaison agency with International Atomic Energy Agency (IAEA).

### Slogan

*"Nuclear technology propels the national vision"*

## MAIN FACILITIES

In the effort to boost implementation of missions, Nuclear Malaysia provides several major facilities, which utilise nuclear source application for research and commercialisation purposes. It encompasses:

- TRIGA PUSPATI Reactor
- SINAGAMA irradiation plant
- ALURTRON irradiation plant
- Radioactive Waste Treatment plant
- RayMINTEC Plant
- Incineration plant
- Secondary Standard Dosimetry Laboratory
- Radioisotope Production Laboratory
- Neutron Activation Analysis Laboratory
- Non-Destructive Testing Laboratory
- Non-Ionising Radiation Laboratory
- Polymer Laboratory
- Tissue Culture Laboratory
- Biomaterial Centre
- Flora Park





## RESEARCH & TECHNOLOGY DEVELOPMENT

Nuclear Malaysia conducts extensive R&D in the national socio-economy sectors such as in industry, medicine, radiation processing, agro-technology and biosciences as well as environmental safety. These research projects generate a manifold of new products, which are practical in everyday lives.

### Industrial technology

- Development and characterisation of materials
- R&D of NDT methods
- Tracer technology application in environmental and industrial management
- System development for processing plant troubleshooting
- Environment, food and biological sample analysis facilities

### Medical technology

- Development of radiopharmaceutical kits
- Development of monoclonal antibodies
- Development of medical tablets packaging technology
- Imaging technology
- Development of artificial bone graft product manufacturing technology



## RESEARCH & TECHNOLOGY DEVELOPMENT

### Radiation Processing

- Gamma and electron irradiation application on natural products such as chitin, chitosan, natural rubber and polysaccharides
- Development of heat shrinkable tubes
- Rubber wood, palm and kenaf fibre polymer composite studies
- Pressure-sensitive adhesive and ink cartridge studies
- Resin synthesis and modification from palm oil
- Industrial, flue gas and waste water treatment
- Cross-linking and biodegradable film studies

### Agrotechnology and Biosciences

- Mutagenesis and plant biotechnology studies
- Development of DNA marker, application of flow cytometry and molecular biology in the production of new varieties of ornamental plants, food and industrial crops
- Production of enzymes
- Hydrogel and other biomaterial production
- Development of bioproducts, e.g. animal feed, biofertilizers, bioactive compounds from natural resources
- Modernisation of gaharu industry

### Environment

- Marine and air pollution studies
- Hydrology and flow of polluted items studies
- Soil erosion and deposition studies
- Sediment movement in river estuary and coastal shore studies
- Development of incineration technology





## PRODUCTS AND SERVICES

Based on a multitude of technological research and development implemented to accommodate the requirements of various economic sectors, Nuclear Malaysia also extends numerous products and services with prospects of technology transfer and commercialisation.

### Products

- ✦ Radiation vulcanised rubber latex
- ✦ Medical diagnostic kits
- ✦ Medical radioisotopes
- ✦ Industrial radioisotopes
- ✦ Agricultural radioisotopes
- ✦ New varieties of ornamental, fruit and food crops
- ✦ Biomaterials



### Services

- ✦ Environmental research and assessment
- ✦ Environmental monitoring
- ✦ Radiological impact assessment
- ✦ Water resources management
- ✦ Agricultural, industrial and domestic waste management



### Quality Assurance

- ✦ Personnel dosimetry
- ✦ Medical quality assurance
- ✦ Industrial quality assurance



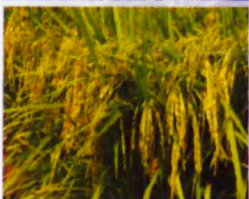
### Non-chemical Sterilisation

- ✦ Gamma irradiation
- ✦ Electron beam irradiation



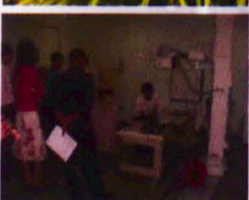
### Technical and Engineering Services

- ✦ Material, structure and industrial plant inspection and testing
- ✦ Industrial inspection and process control
- ✦ Agricultural technology
- ✦ Medical technology
- ✦ Material analysis and evaluation



### Training

- ✦ Inspection and testing technology
- ✦ Environment and health safety
- ✦ Instrumentation and engineering
- ✦ Technology management
- ✦ Medical X-ray



## GLOBAL ARENA

Several remarkable roles and achievement attained by Nuclear Malaysia locally and internationally include the following:

- ✦ Malaysian Nuclear Agency provides technical support to the Ministry of Foreign Affairs and Ministry of Science, Technology and Innovation in establishing relationship with international community especially in handling multilateral nuclear issues
- ✦ Responsibility of representing the country in discussions pertaining to multilateral nuclear issues
- ✦ Malaysian Nuclear Agency has established bilateral relation with International Atomic Energy Agency, which has its headquarters in Vienna, Austria
- ✦ Malaysian Nuclear Agency is selected to be the coordinator for several projects in the Regional Co-operative Agreement (RCA) and Forum for Nuclear Cooperation in Asia (FNCA)
- ✦ To enable the public to get a clearer view of the nuclear research reactor and other main facilities available in this agency through visits and exhibitions
- ✦ To handle issues of social importance especially on radiation protection
- ✦ First government agency accredited with ISO 9000 (1991)
- ✦ 10 processes accredited with ISO 9001
- ✦ 2 laboratories accredited with ISO 17025 (Testing and Calibration laboratories)
- ✦ In the process of accreditation with OHSAS 18001 / IMS





## DIRECTORY

### DIRECTOR GENERAL OFFICE

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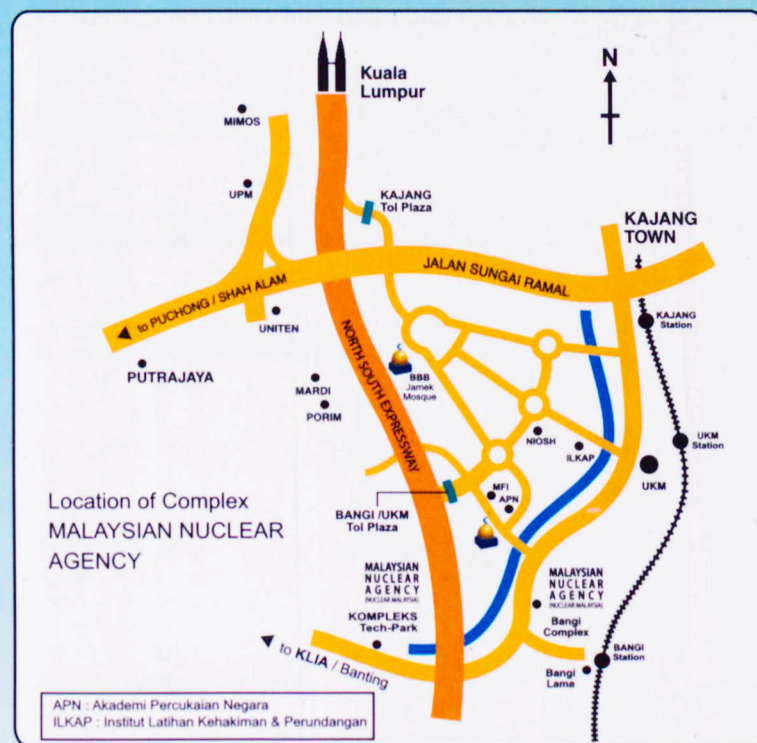
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## LOCATION MAP



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