



Ministry of Science and ICT

**FNCA**

Forum for Nuclear Cooperation in Asia

# Korea's Efforts

in Enhancing Social and Medical Well-being  
based on Nuclear Science and Technology  
under the COVID-19 Pandemic

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## COVID-19 Status and Korea's Response Efforts



## Social & Medical Well-being with Nuclear Technology

- Diagnosis and Treatment with Radioisotopes
- Emergency Medical Response System
- Sterilization Technology for Personal Protection Equipment
- New-drug and Advanced Materials using Accelerator



## Contributions to the International Society for Action

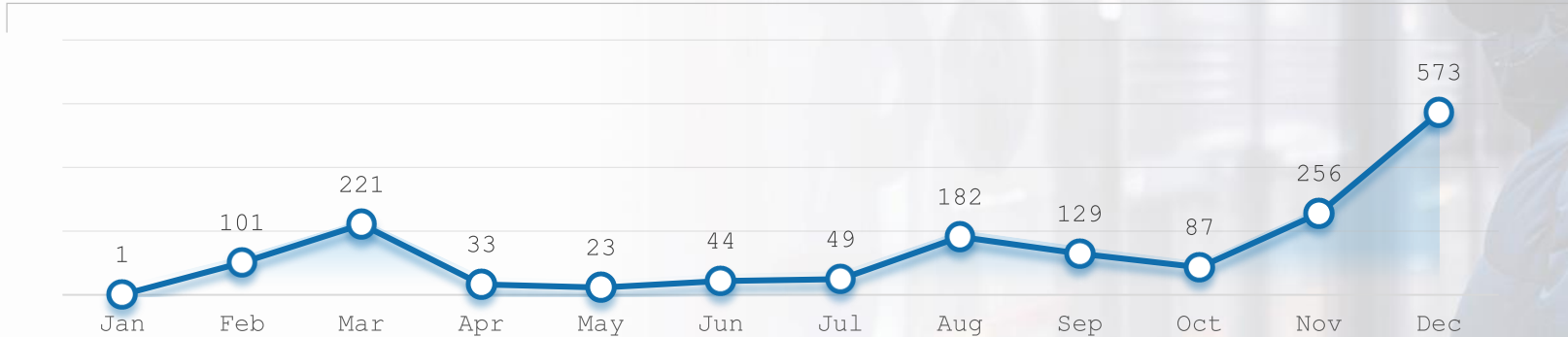
- K-Quarantine Model
- Contribution for Cancer and Infectious Disease Eradication

# COVID-19 Status and Korea's Response Efforts

## Domestic status

38,755 confirmed cases (as of 8th Dec 2020)

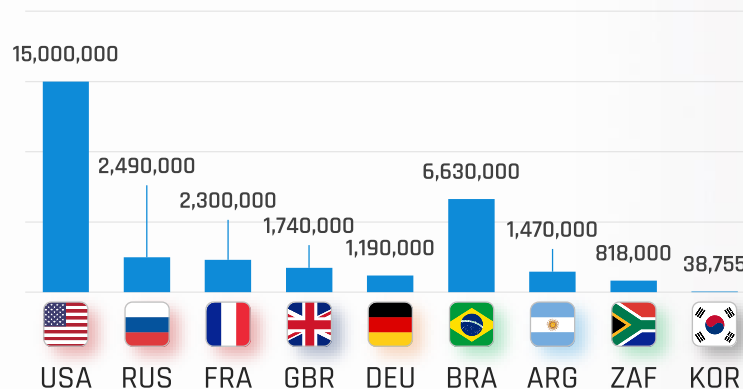
\* Local residence: 36,533 / Overseas entrant: 2,222



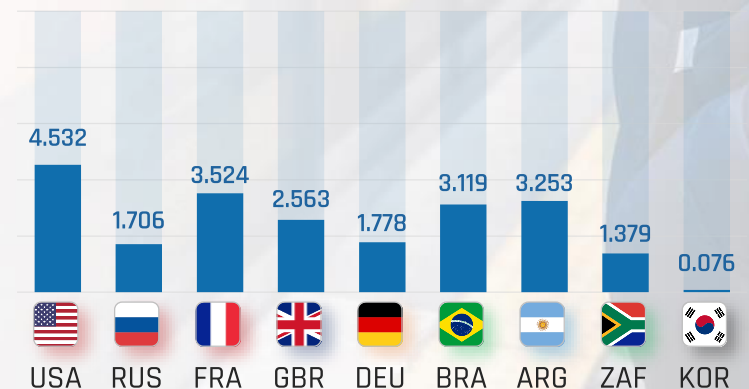
## International status

\* Source: google COVID-19 Statistics (assess on 8th Dec 2020)

Total number of COVID-19 infectees in other nations



Ratio of confirmed cases to population



# COVID-19 Status and Korea's Response Efforts

Key

## “3T strategy”

and Citizens' Participation

### Test

Large-scale testing and AI-based diagnosis

### Tracking

Tracking system utilizing digital technology

### Treatment

Drug repositioning project led by the Government

### Citizens' Participation

Wearing a mask in public places



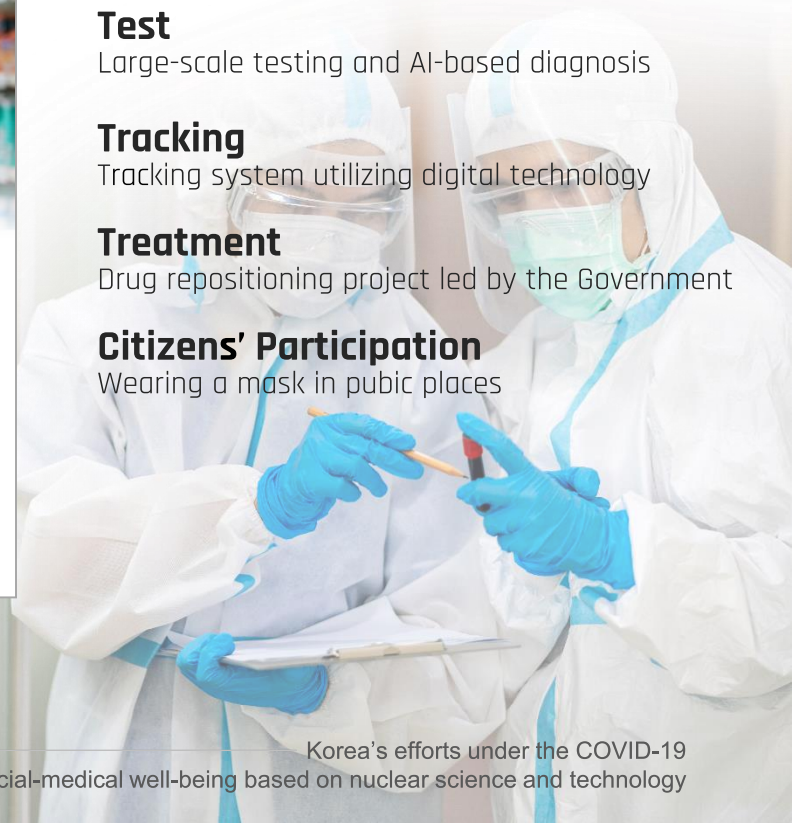
## Open Boarder

Special entry procedures  
for all inbound travelers



## Open Society

Policies allowing for  
people's freedom



# Social & Medical Well-being with Nuclear Technology



## Diagnosis and Treatment with Radioisotopes

Development of dementia diagnostic agent, new drugs for infectious disease and anti-cancer drugs utilizing radioisotopes

- e.g.** New drug R&D for infectious disease with C-14 (2005~)  
Thyroid cancer and children tumor treatments with I-131 (2001~)  
General cancer and brain disease diagnosis with F-18 (1995~)

## Emergency Medical Response System

Application of the Radiation Emergency Medical Response System to respond to COVID-19

Non-face-to-face diagnosis, surgery and radiotherapy treatment



# Social & Medical Well-being with Nuclear Technology



## Sterilization Technology for Personal Protective Gears

Research on the electronic and gamma beam irradiation to sterilize personal protective gears (Mar 2020 ~)

- ▶▶ The result was reflected in the IAEA guideline and recommended to the member states (Apr 2020)

## Developing New-drug and Advanced Materials using Accelerator

Plan to build additional 4th generation multi-purpose photovoltaic accelerators from 2021

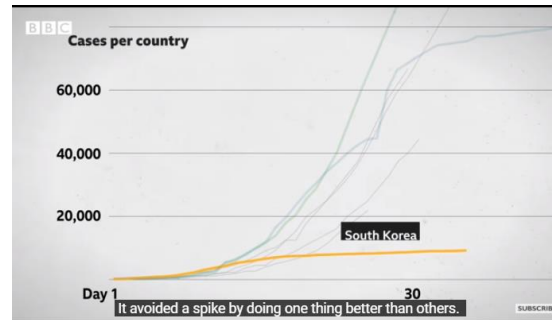


# Contributions to the International Society for Action : Cases and Plans

## • K-Quarantine Model

### Korea's experience and knowledge on COVID-19 response

- Highlighted by the international news media such as BBC and CNN
- Disseminated to the international society at the conference held by inter-governmental organizations i.e. UNSECO, OECD and G20



## Further plans to share Korea's know-how with IAEA member countries in :

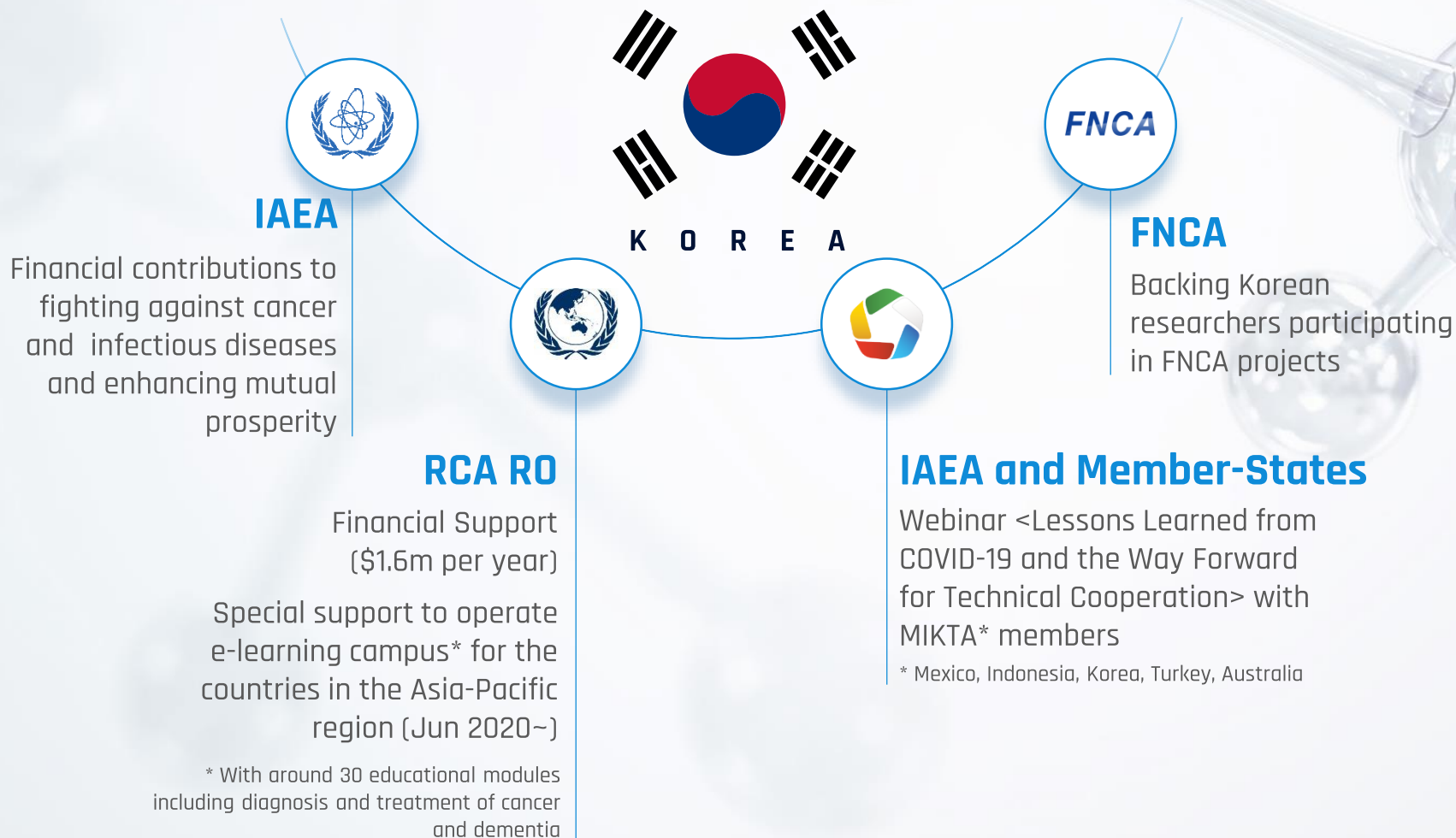


- Operating a state-designated clinic
- Enhancing CT-based COVID-19 diagnostic capabilities
- Sterilizing personal protection equipment
- \* Special contributions to IAEA for the medical staff training in developing countries (Sep 2020- )

## Mask manufacturing project utilizing the 3D printers for developing countries

# Contributions to the International Society for Action : Cases and Plans

## • Contributions for the Cancer and Infectious Disease Eradication





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