

Strategy for practical implementation by service providers: our experience

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The individual
monitoring
service
of Greek
Atomic Energy
Commission
(EEAE)



IMS of EEAE

- EEAE is the competent authority for the coordination of the individual monitoring of the workers exposed to ionizing radiation.
- The individual monitoring is currently performed by EEAE Personal Dosimetry Department using thermoluminescent dosimeters (TLDs)

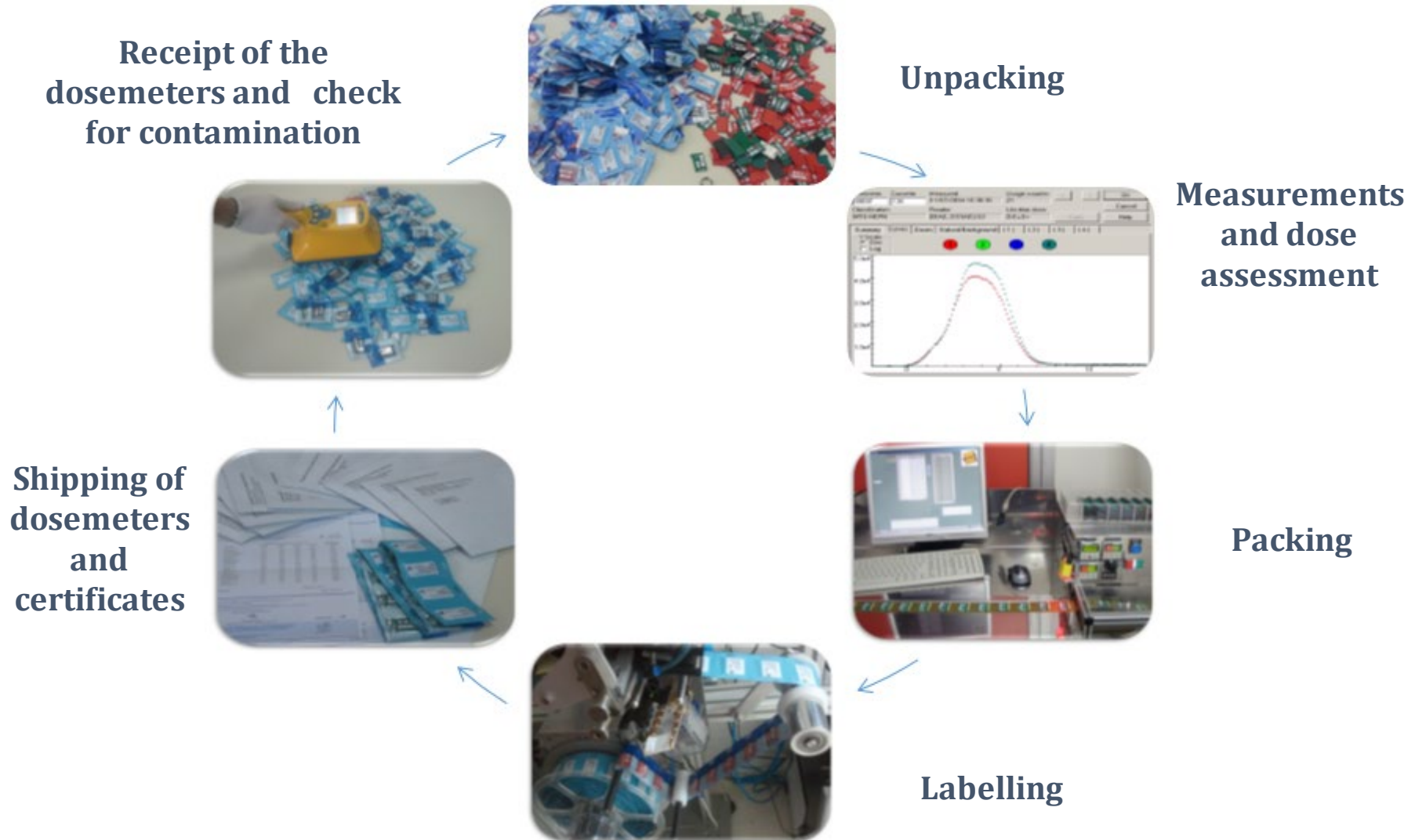


Workload

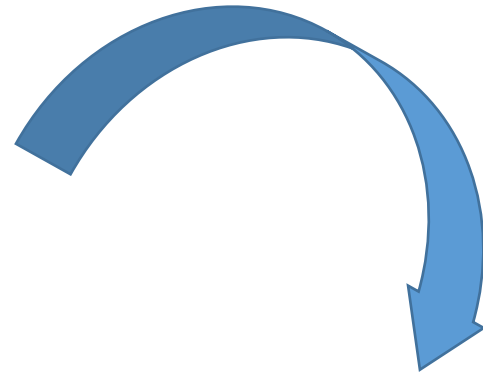
- 12 000 workers with whole body dosimeters
- 50 workers with neutron dosimeters
- 400 workers with ring dosimeters
- 50 workers with eye lens dosimeters

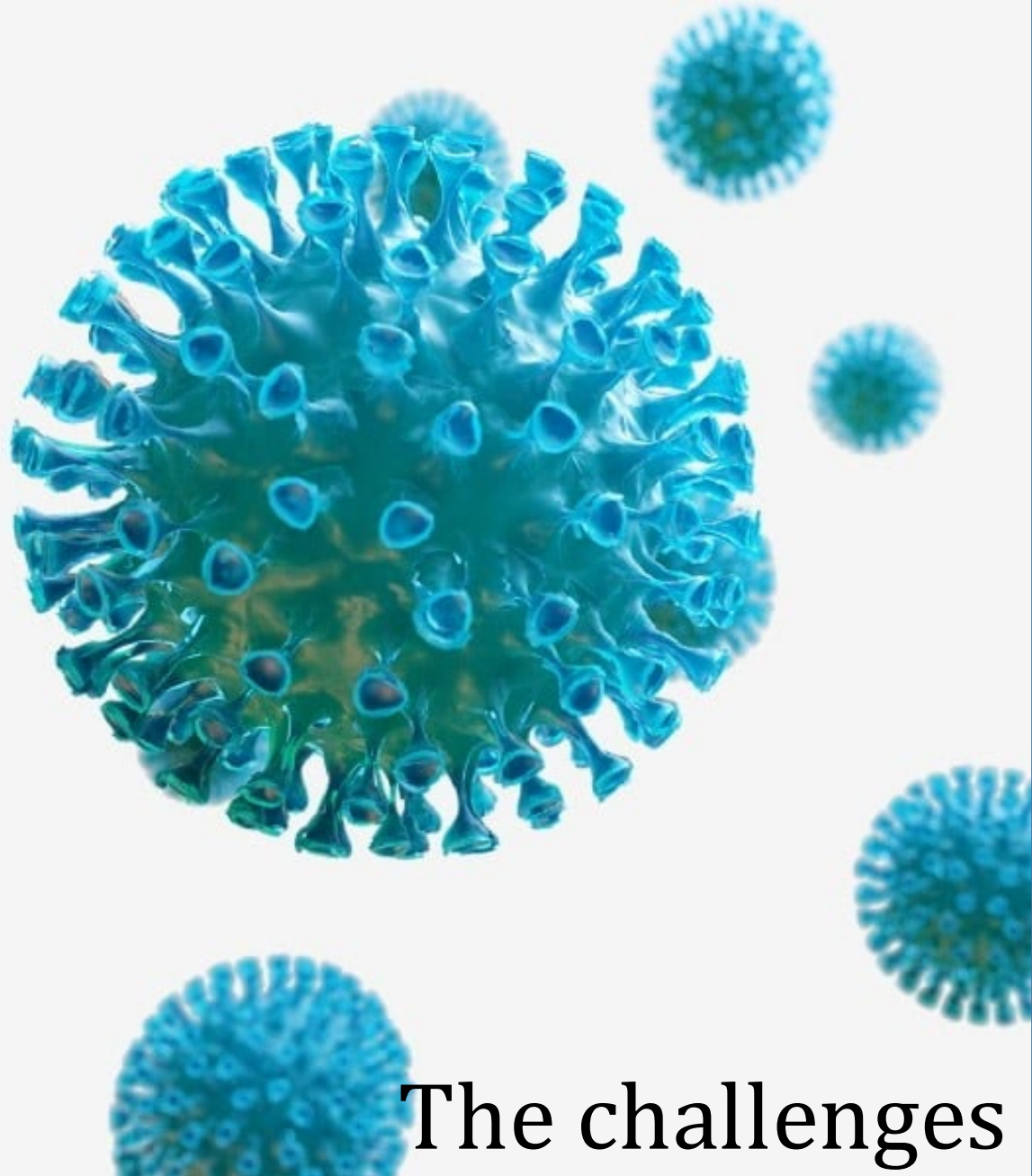


Workflow on monthly basis



(Un)packing of dosemeters





The challenges

COVID-19 vs IMSs

- Every day routine is not “routine” anymore!
- In order to face COVID-19 spread and contamination

National rules and restrictions

- **workplaces**
- **transportation channels**
- **health care facilities**

EEAE had to adapt its working methods without compromising its priorities



How to face the
problems in the lab?

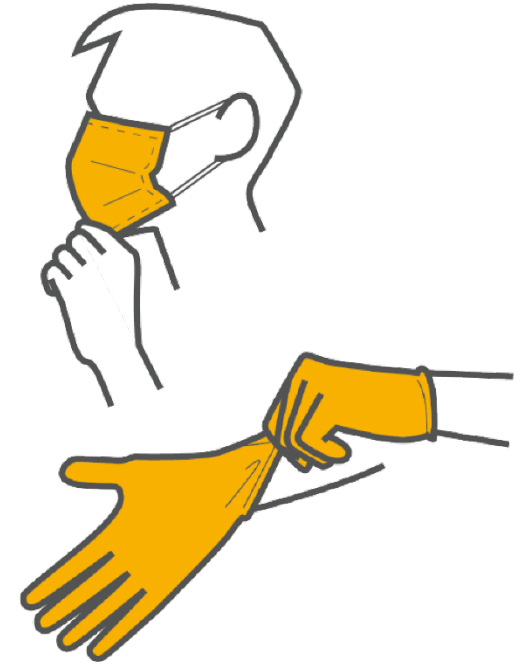
1. The personnel working in the lab

- General hygiene measures for everyone (national rules)
- Keep distances of 2 m
- 2 person-shift per office
- Work in the lab only for performing measurements
- Other tasks remotely (i.e handling of new applications, calculations, data entry)



1. The personnel working in the lab

- No entrance for non-staff members
- The dosimeters to be left by the clients or the postal services outside the lab inside a dedicated basket
- Wear masks and gloves when opening the incoming envelopes
- Opening of envelopes on a dedicated table-lab and cleaning the surface with alcohol based liquids





2. The quality assurance

- The quality control stayed unaffected
- The monitoring period => 2 months
- The fading calibration factors, the background correction, the uncertainty etc had to be adapted due to the change in the monitoring period
- The archives had to be changed to follow the new work flow
- The results were sent to the RPOs by encrypted e-mail (in line with GDPR)
- Regarding the accreditation procedure there is an option to perform the audit remotely.



3. Workload

- For the IMS staff stayed in the lab the workload per day was higher
- New stock of dosimeters to be prepared
- Many questions from workers about the dosimeters of the upcoming monitoring period
- The IMS staff had to make sure that all workers are still under the monitoring programme
- Many questions asking advice from EEAE staff about new tasks and duties



How to face the
problems with the
customers?

Exposed workers (esp. in health care facilities)

- The exposed workers involved in X-ray radiology experienced higher workload than usual
- They also experienced differences in practices (portable equipment stayed fixed, some control/supervised areas were modified to serve new needs in hospitals due to pandemic)
- Therefore, they need to know that the radiation protection is kept unaffected and the individual monitoring is still running on the same level of proficiency



Delivery of dosemeters

- Postal workers and workers in courier services also experienced higher workload
- In order not to sent the dosemeters “too late” to the facilities different postal services were used (though this was of higher cost for the IMS)
- Some dosemeters were kept back as some facilities were closed



Information provided to the customers

- The information regarding the monitoring period was announced to our customers through our website and the social media (Facebook, Instagram, Twitter)
- FAQs were uploaded on the website
- All media information requests were answered on time



Συχνές ερωτήσεις και απαντήσεις

#aktinovolia
#menoumespiti
#Covid-19



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αλλά **καταγράφει τη**
δόση

ΕΕΑΕ, Μάρτιος 2020
www.eeae.gr



Δεν επιστρέφω στην ΕΕΑΕ
τα δοσίμετρα Μαρτίου!

Χρησιμοποιώ και τον Απρίλιο
το ίδιο δοσίμετρο!



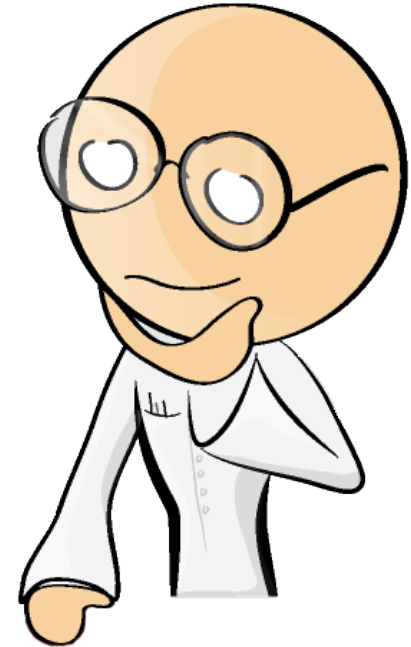
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Other implications




Other implications ...

- The data submitted to the National Dose Registry had to be adjusted with a specific indication that within the period of lockdown no dosimeter was sent to customers (*Reminder: data to be kept for 30 years! Something to remember from COVID-19*)
- The charging of services was modified due to no-service situation during the pandemic lockdown period



Formulation of a strategy





**The management of the
COVID-19 as an
opportunity in IMS
processes**

Strategy

The pandemic of COVID 19 is here and maybe it will stay for long!



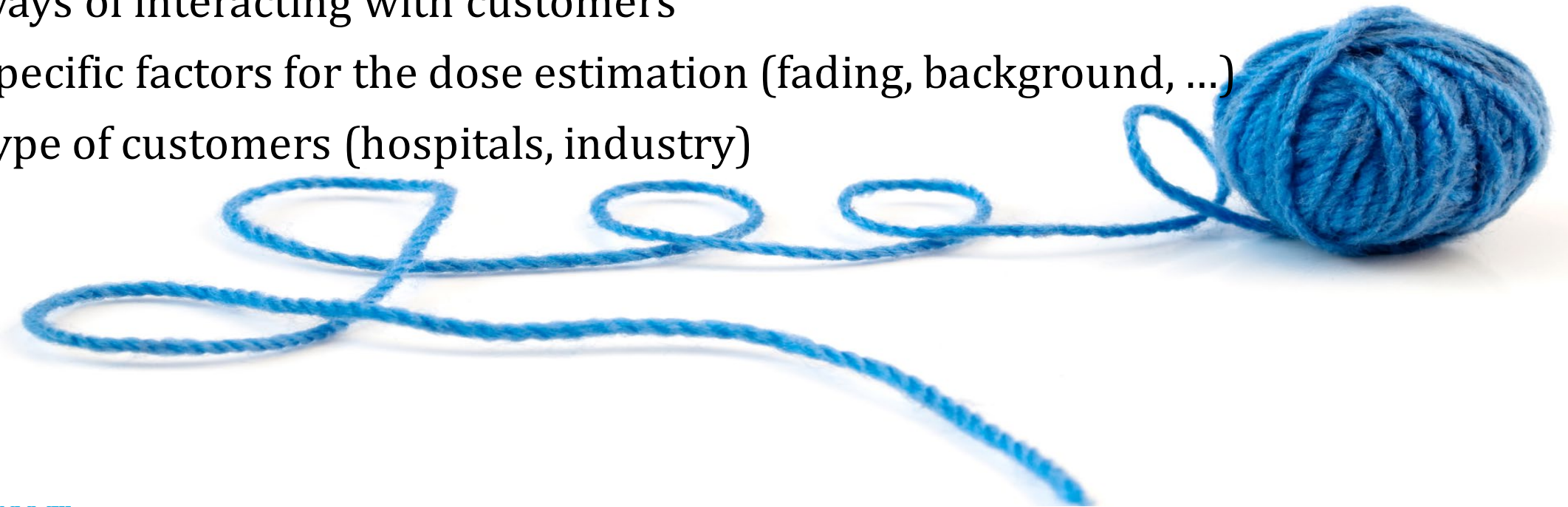
- There are the general rules
- The national framework
- The guidance
- The good or bad practices

followed by each monitoring service

The handling of pandemic crisis

The effective running depends on:

- The type of service (internal, external)
- The type of doseimeters/samples (i.e their outside cover)
- The ways of interacting with customers
- The specific factors for the dose estimation (fading, background, ...)
- The type of customers (hospitals, industry)
- ...



Opportunity for each service

- Review and revise the specific procedures within the lab and with the interaction with the customers
- Apply corrective actions
- Be prepared for handling situations like COVID-19
- Be in line with the safety requirements and regulations

The ultimate goal is to let the exposed workers know that safety is still our priority even in stressful periods



Opportunity

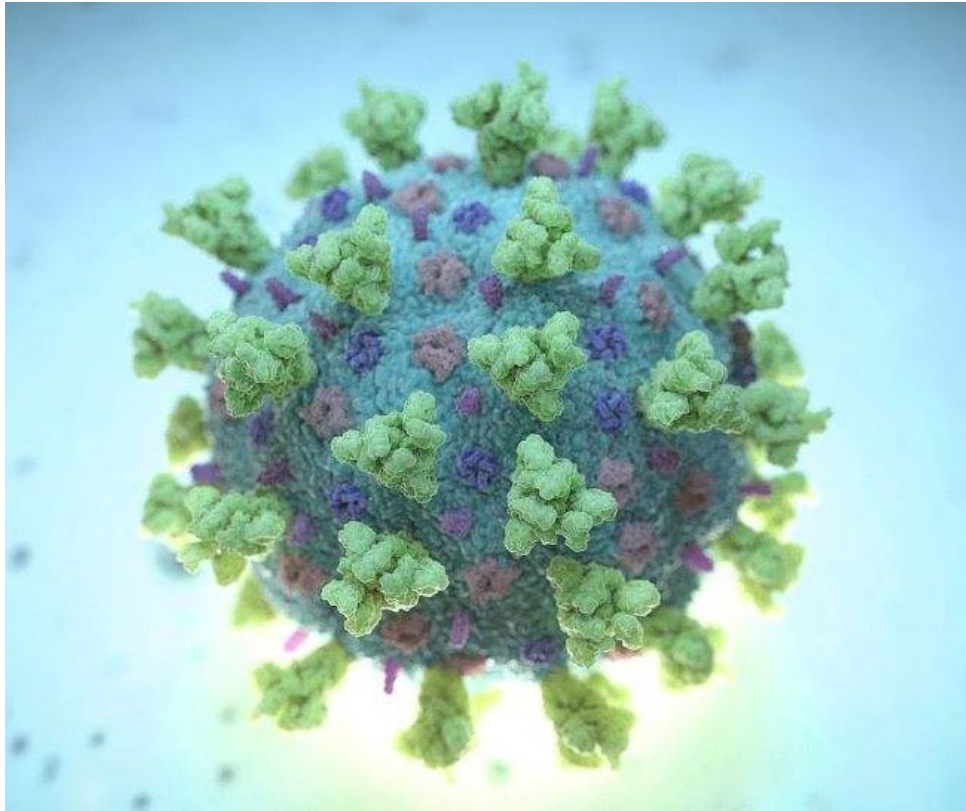


Maybe the **answer in the near future** is a remote on-line monitoring programme with which the calculation of doses can be performed through a web based applications without the use of physical dosimeters!

Opportunity- Podium project

- the development of an indoor position system capable of identifying and tracking the movement and position of the exposed staff and the mapping of the radiation fields
- the use of Monte Carlo (MC) methods and a variety of computational body phantoms, assuming various postures inside the radiation field
- online application to calculate the exposure of the worker.





Thank you very much
for your attention!