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## Upgrading Safety and Security of Gamma Irradiation Facilities – Possibilities and Limitations

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Improvement of safety and security are important goals of gamma irradiation facility upgrades, besides improvement of more economical and product quality related features.

Safety of gamma irradiators comprises three complexes which may require upgrades:

- Shielding of radiation when in operation and in stand by
- Protecting people from entering or staying inside the irradiation room
- Preventing of dispersal of radioactive material

A more general problem with respect to safety is safety culture, which is on very different levels at different places in the world. This is not limited to radiation protection but is a problem also in other fields of commercial and daily life (road traffic, electricity, health and safety at work). Here “upgrades” may be required as well.

Fortunately, respect from radioactivity increases safety attitude, at least at the beginning.

Limiting factors not only for upgrades but sometimes also for the safety level of new installations are

- Lack of financial resources
- Lack of know how
- Lack of safety culture
- “cheap –cheaper –cheapest” business culture

Security is all about preventing theft of radioactive sources for terroristic goals and other abuse. Here it may be easier to overcome a possible lack of financial resources or of know how due to the interest of the international community to eliminate terroristic threats.

### Country/Organization invited to participate

Germany

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