

## Security

If Moli-bank is the treasure of the Moli-sani Project, it's right to protect it as such.

The entire storing system is duplicated. From each Moli-sani Project participant a double series is stored, with 14 paillettes, each filling the whole clove of the goblets. The two series are stored in two different tanks. In this way, even the more catastrophic event (though very unlikely), that is the loss of a whole tank, won't have any negative effect: none of the participants would be missed.

Liquid nitrogen in the tanks is constantly kept under control by an electronic system able to give the alarm to the biological bank staff and to the experts of the company responsible for management and construction. A typical emergency signal indicates, for example, when the nitrogen in the main tank (that contains 4,000 litres full- load) decreases up to less than 30%.

In this way refurbishing is automatically activated. Electricity interruption might represent a serious danger for Moli- Bank. That is why the whole Bank is linked to the continuity system of the Catholic University of Campobasso able to supply electricity in a continuous way. A batch of totally independent buffer batteries provides a further security level.

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Security means also protection from not authorized access. Access to the Biobank rooms is then kept under strict surveillance. Only the system operators are allowed to enter, but not before being identified by a biometric system. In practice, they are recognized by their fingerprint hedged in the memory of the surveillance computer.

For Moli-bank, personal safety is important as well. All operators must wear special gowns, masks and gloves to protect themselves from the tanks hard cold and from possible liquid nitrogen drops that might reach them during loading operations or samples extraction. In addition, nobody is allowed to operate on his own in the Biobank: is compulsory the simultaneous presence of at least two people, while a camera continuously films the rooms, allowing operators to keep under control the ongoing operations. Finally, liquid nitrogen escape might saturate the air, lowering the oxygen in the air and laying the operators lives on the line. That is why oxygen levels are constantly kept under control by two sensors able to give the alarm whenever needed.

It is important to note that Moli-sani never goes on holiday. All parameters, instrumentations and alarms are kept under control by operators, even when they are not in the laboratories. Thanks to safe data transmission connections, operators are able to intervene from a distance to modify some characteristics of the system in order to detect immediately the anomalies that may occur.