CLAIMS

1. A modular storage system comprising:

- a modular structure comprising a plurality of adjacent modules, each module of the plurality of modules comprising a parallelepiped-shaped chassis and having four lateral faces, an upper face and a lower face;
- a locker, able to be moved in the modular structure from one module to an adjacent module, the locker being configured to transport stored items, one of the stored items of which is an item to be extracted from the system; and

the modular structure comprising an ejection system, which itself comprises an ejection module and an ejector module, among the plurality of modules, the ejection module and the ejector module comprising a common lateral face, the ejection module comprising an ejection face opposite to the common lateral face, and the ejector module comprising a pusher positioned on the chassis of the ejector module, said pusher comprising a rod configured to move from a stowed position in which the rod is comprised in the ejector module, to an ejection position in which the rod passes perpendicularly through the common lateral face and extends at least partially into the ejection module, the rod pushing the item to be extracted laid on the locker located in the ejection module to eject said item to be extracted from the modular structure, via the ejection face of said ejection module.

2. The system according to claim 1, wherein the pusher further comprises a carriage movable in translation relative to the chassis along at least one direction belonging to the plane of the common face of the ejector module, the rod being movable in axial translation on the carriage and the carriage being configured to position the rod in alignment with the item to be extracted and with the ejection face.

3. The system according to any one of claims 1 to 2, wherein the rod of the pusher comprises a shoe fixed on the rod, the shoe being articulated on the rod so as to adapt its orientation to the contact with a surface of the item to be extracted.

4. The system according to claim 3, wherein the shoe comprises a surface provided for the contact with the item to be extracted, the contact surface comprising a first dimension and a second dimension larger than the first dimension, the pusher comprising a motorization configured to orient the shoe and its contact surface according to the item to be extracted.

5. The system according to any one of claims 3 and 4, wherein the shoe comprises a sensor configured to acquire information on the relative position of the shoe and of the item to

be extracted, and transmit it to the central controller which pilots the displacement of the rod.

6. The system according to any one of claims 1 to 5, comprising a central controller, configured to synchronously manage the displacements of the locker in the modular structure and of the pusher.

7. The system according to any one of claims 1 to 6, comprising an inert or motorized conveying device, the conveying device comprising an inlet and an outlet, the inlet of the conveying device being adjacent to the ejection face of the ejection module and the outlet of the conveying device being adjacent to a recovery point, the conveying device being configured to convey the item to be extracted ejected from the ejection module to the recovery point.

8. A method for extracting an item to be extracted from a system according to any one of claims 1 to 7, the method comprising the following steps:

- moving the locker comprising the item to be extracted towards the ejection module, the locker being able to enter the ejection module either by its lateral faces other than the common lateral face and the ejection face, or by its lower face or its upper face, the displacement being monitored to position the item to be extracted in front of the pusher;
- moving the rod of the pusher from the stowed position to an ejection position, this displacement pushing the item to be extracted out of the locker.

9. The method for extracting an item to be extracted from a system according to any one of claims 1 to 7, the method comprising the following steps:

- moving the locker comprising the item to be extracted in the ejection module, the locker being able to enter the ejection module either by its lateral faces other than the common lateral face and the ejection face, or by its lower face or its upper face, the displacement being monitored to position the item to be extracted in front of the pusher;
- moving the carriage of the pusher relative to the chassis of the ejector module so that the item to be extracted and the pusher are positioned face to face, and
- moving the rod of the pusher from the stowed position to an ejection position, this displacement pushing the item to be extracted out of the locker.

10. A computer program product including code data configured to control the implementation by a central controller of the steps of a method for extracting an item to be extracted according to any one of claims 8 and 9.