CLAIMS

1. An electromechanical lock assembly comprising:

an interface rotatable around a longitudinal axis;

an inner cylinder disposed within the interface and rotatable around the longitudinal axis;

a clutch disposed within the inner cylinder, rotatable between:

a disengaged position, and

an engaged position, that enforces a rotational coupling of the interface and the inner cylinder; and

a motor configured to rotate and hold the clutch at the engaged position for a predetermined duration;

wherein the clutch is bias towards the disengaged position and while the clutch is in the engaged position, the interface and the inner cylinder are rotatable to enforce a fall-back coupling between the interface and the inner cylinder.

2. The electromechanical lock assembly according to claim 3, wherein the interface and the inner cylinder have a locked position; and wherein the fall-back coupling is disengaged when the interface and the inner cylinder are rotated to the locked position.

3. The electromechanical lock assembly according to claim 1 or 2, further comprising a first coupling member;

wherein,

while the clutch is in the disengaged position, the first coupling member is freely disposed within a first cavity defined by the interface, the inner cylinder and the clutch; and

while the clutch is in the engaged position, the first coupling member is disposed within a second cavity defined by the interface and the inner cylinder to enforce the rotational coupling.

4. The electromechanical lock assembly according to any of claims 1-3, further comprising:

a second coupling member;

wherein while the clutch is in the disengaged position, the second coupling member is freely disposed within a third cavity defined by the interface, the inner cylinder and the clutch; and

while the clutch is in the engaged position, the second coupling member is disposed within a fourth cavity defined by the interface and the inner cylinder to enforce the rotational coupling.

5. The electromechanical lock assembly according to claim 4, further comprising:

a fixed outer cylinder in which the interface is disposed; and

a fall-back coupling member disposed within a fifth cavity defined by the interface and the inner cylinder to enforce the fall-back coupling while the interface and the inner cylinder are being rotated.

6. The electromechanical lock assembly according to claim 5, wherein the fall-back coupling member is biased radially outwards from the longitudinal axis; and

when the interface and the inner cylinder are in the locked position, the fall-back coupling member resides in a sixth cavity defined by the outer cylinder and the interface.

7. A method of operating an electromechanical lock comprising the steps of:

biasing a clutch towards and at a disengaged position;

receiving and authenticating security credentials;

rotating a clutch to an engaged position;

holding the clutch at the engaged position to enforce a rotational coupling between an interface and an inner cylinder;

rotating the interface and the inner cylinder away from a locked position to enforce a fall-back coupling between the interface and the inner cylinder;

releasing the clutch to disengage the rotational coupling; and

rotating the interface and the inner cylinder to the locked position to disengage the fall-back coupling.