CLAIMS

1. ~~S~~A system (10) of a package (2) containing a product and an apparatus (1) using said product, the apparatus being refilled by the product contained in the package,

wherein a code (21) related to the contained product is associated to the package, said code being a two dimension code and said code presenting a predetermined surface S_{code},

and

wherein the apparatus comprises a code reader (11) to read the code associated to the package, said code reader being an image capturing device, said image capturing device being defined by :

- a predetermined focal range,
- a horizontal angle of view α and a vertical angle of view β,

wherein the apparatus comprises a housing structure (16) and a cavity (12) inside the housing structure, said cavity extending from a back side (124) at the inside of the housing structure to a front side (123) at ~~the~~an external surface of the housing structure and comprising at least one lateral wall (122) extending between the back side and the front side of the cavity,

wherein the image capturing device is positioned at the back side of the cavity and the optical axis of the image capturing device extends in a direction of ~~the~~a middle of the front side of the cavity,

wherein the ~~front side of the cavity consists in a hole (121) in the external surface of the housing structure, said~~ hole (121) of the front side of the cavity presents~~ing~~ a surface S_{hole} such that :

$$1_{,}2\ S_{code} \leq S_{hole} \leq 6\ S_{code}$$

wherein ~~the~~a distance extending between the back side of the cavity and the front side of the cavity is comprised in the predetermined focal range of the image capturing device, and

wherein the at least one lateral wall (122) of the cavity is configured to surround the horizontal angle of view α and the vertical angle of view β of the image capturing device~~,~~, and

~~2. System according to Claim 1,~~ wherein the hole (121) in the external surface of the housing structure is empty, and

~~,~~wherein the code (21) is a QR code with a square or rectangle outline and the hole (121) of the front side of the cavity presents an outline of similar square or rectangle shape, and

wherein the apparatus comprises a light source (17), said light source being oriented to illuminate the hole (121) from the inside of the cavity.

~~3~~2. ~~System~~The system according to the precedent claim, wherein the cavity (12) comprises a protecting transparent wall at the back side of the cavity.

~~4~~3. ~~System~~The system according to any one of the precedent claims, wherein the code is a barcode or a QR code.

~~4~~5. ~~System~~The system according to any one of the precedent claims, wherein the image capturing device (11) is a camera.

~~5~~6. ~~System~~The system according to any one of the precedent claims, wherein ~~the~~a shape of ~~the~~an outline of the code and ~~the~~a shape of ~~the~~an outline of the hole of the front side of the cavity are similar.

~~7. System according to any one of the precedent claims, wherein the code (21) is a QR code with a square or rectangle outline and the hole (121) of the front side of the cavity presents an outline of similar square or rectangle shape.~~

~~8. System according to any one of the precedent claims, wherein the apparatus comprises a light source (17), said light source being oriented to illuminate the hole (121) from the inside of the cavity.~~

~~6~~9. ~~System~~The system according to any one of the precedent claims, wherein the code provides information related to the contained product, said information being comprised in the list of : identification of the product, quantity of product, nature of the product, origin of the product, shelf-life of the product and/or parameters related to the way to process the product inside the ~~machine~~apparatus.

~~10~~7. ~~System~~The system according to any one of the precedent claims, wherein the apparatus comprises a control system operable to process the product, said control system being configured to :

- analyse ~~the~~a captured image of the code,
- obtain information related to the product based on the captured image of the code,
- process the product based on the obtained information related to the product.

~~11~~8. ~~System~~The system according to any one of the precedent claims, wherein the apparatus is a coffee beans roasting apparatus and the package comprises green or partially pre-roasted coffee beans.