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# VASKON

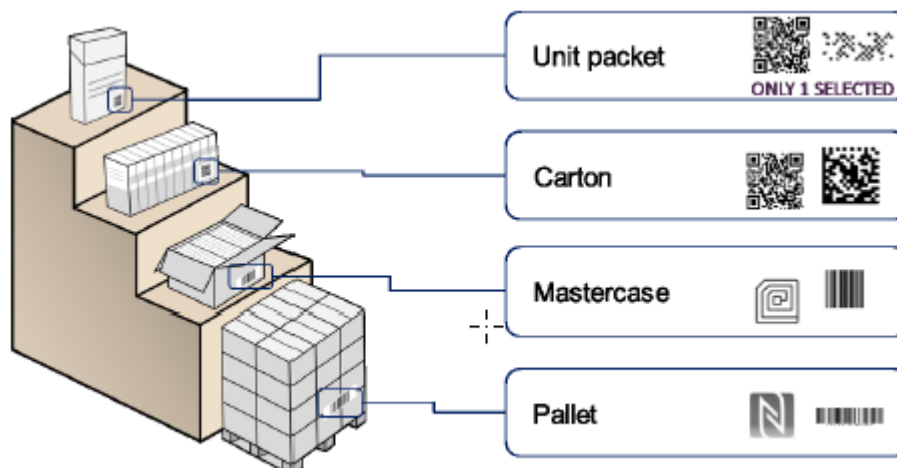
Automation – Special machine construction

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## Track & trace solution Serialization of tobacco pouches

This consists of all required soft- and hardware, allowing to realize full serialization (track & trace), according to CE directive 2014/40/EU (concerning the manufacture, presentation and sale of tobacco and related products) + commission implementing regulation (EU) 2018/574 on technical standards for the establishment and operation of a traceability system for tobacco products :



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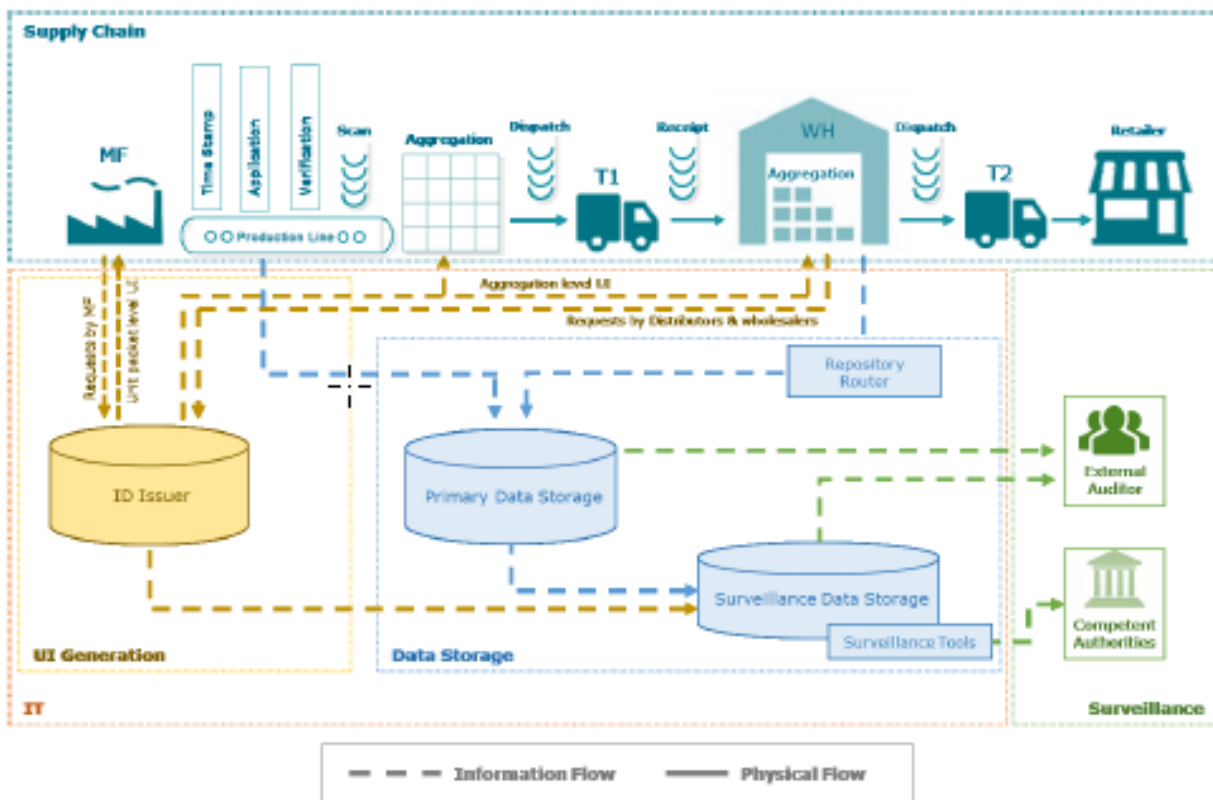
### Description of the system with data carriers per identification level

- Unit pack ID is issued by an ID issuer
- Unique aggregation identification is generated during manufacturing
  
- Software for serialization.
  - o This software requests individual UID's (User Identification) from an authorized ID issuer. The software keeps track of the number of UID's that is available, and makes sure that additional codes are requested from the ID-issuer when required in production
  - o The software puts the UID's at disposal for production (with sufficient buffer). UID's can be applied on individual products in different production lines in the factory.
  - o The software keeps track of each aggregation :
    - unit packs (each having a UID) are aggregated into bundles (each bundle getting a unique code)
    - bundles (each having a unique code) are aggregated into boxes (each box getting a unique code)

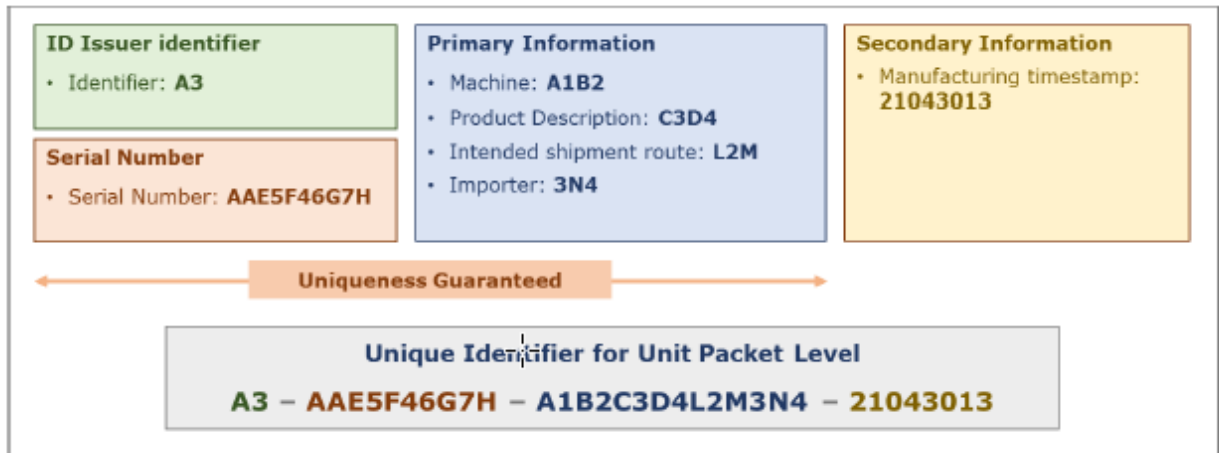
- boxes (each having a unique code) are aggregated into pallets (each pallet getting a unique code)
  - The software communicates the final aggregation (with all its UID's) to the ID-issuer
  - In case of an error, the software allows to disaggregate
  - Each pallet can be disaggregated to box level
  - Each box can be disaggregated to bundle level
  - Each bundle can be disaggregated to unit pack level
  - By this way unit packs (with their UID) can be re-aggregated in case something went wrong during aggregation.
  - The database can be searched very easily for codes :
    - UID's are matched with each of the aggregate identification codes
    - UID's can be searched easily in the database.
    - Individual UID's can be searched quickly. The database allows to search in which bundle the unit pack is located, in which box this bundle is packed, or on what pallet this box has been palletized.
  - identification numbers of the aggregate package can be searched quickly (bundle level, box level or pallet level), including all of its contents
- the software allows to search quickly for parents - or children – of a unit pack or an aggregated pack.

#### Hardware

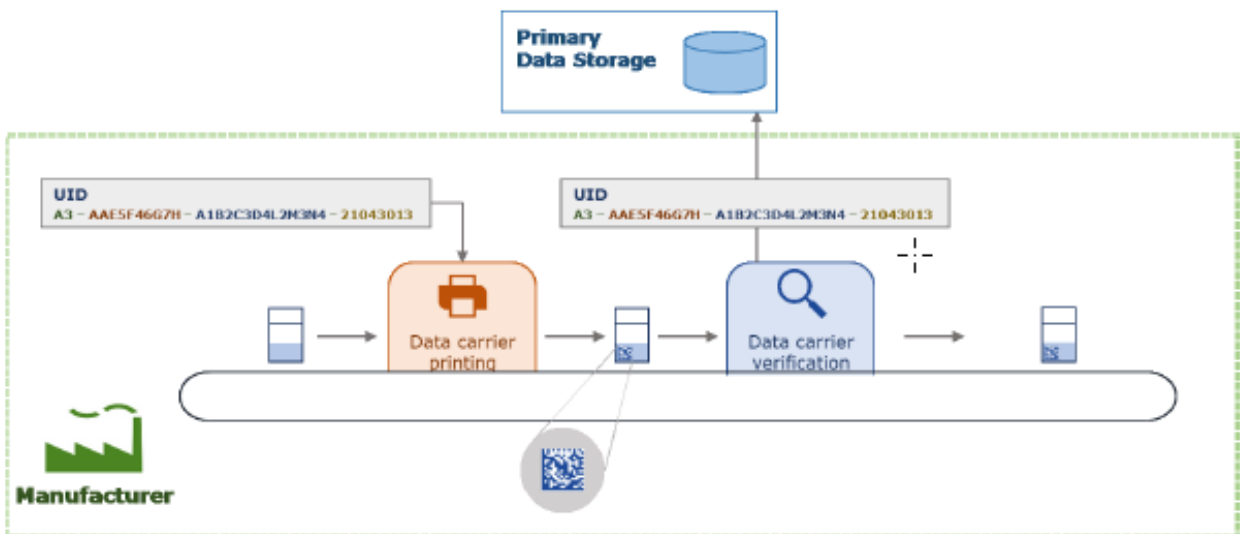
- A line controller (electric cabinet with hardware, allowing to communicate with each production line and with the ID issuer)



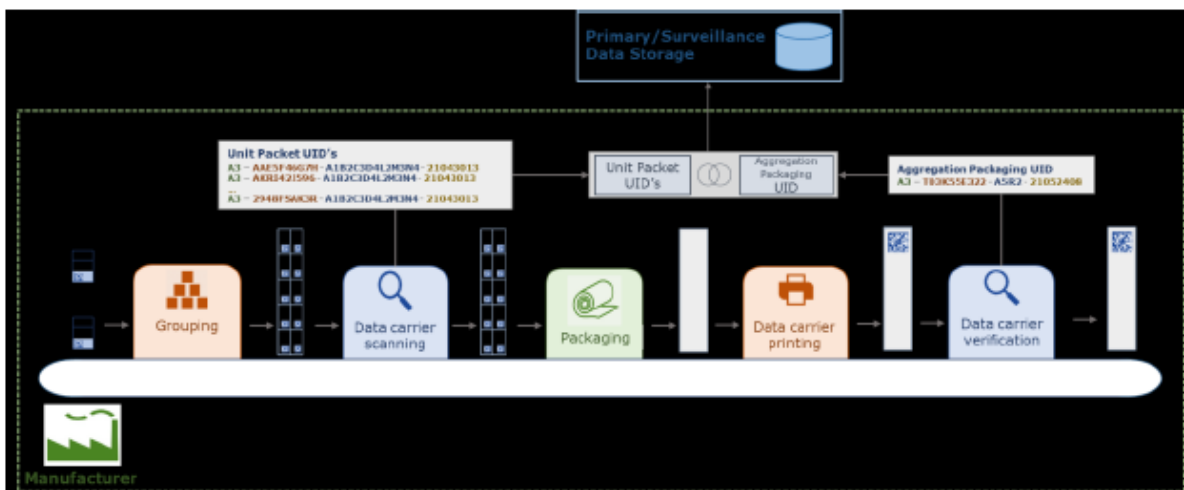
System overview diagram



*Composition of the unique identifier at unit pack level*



*Unique identifier authentication at unit pack level.*



*Aggregation process and linkage of unique identifiers*

This can be combined with other Vaskon solutions, which have been developed for CE directive 2014/40/EU :

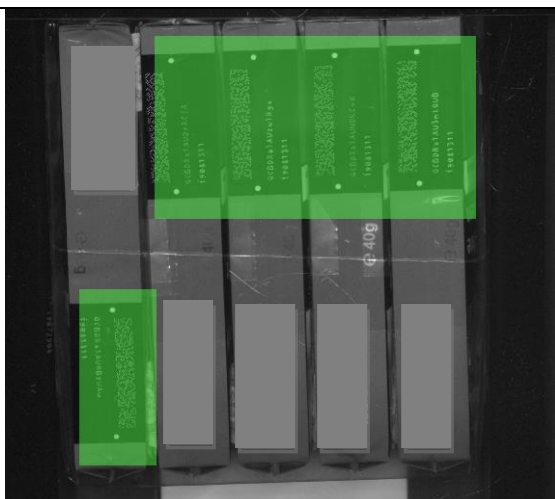
- Track & Trace : laser coding of bundles of pouches (both for identification of individual pouches and for identification of the bundles)
- Track & Trace : laser coding of buckets + semi-automatic aggregation
- Track & Trace : pallet scanning (for automatic scanning of all the boxes on a pallet)
- Track & Trace : integration of scanners and printers (connected with our coding software)
- Robot palletizer
- 



Track & trace : laser coding of individual pouches + coding of bundles



Robot palletizing of boxes (incl scanning)



Bundle with 5 pouches. The vision system searches for 10 reference dots in the green marked area. Laser coding is applied in the centre of each pair of reference dots



Detail of the laser coded UID on the pouches

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