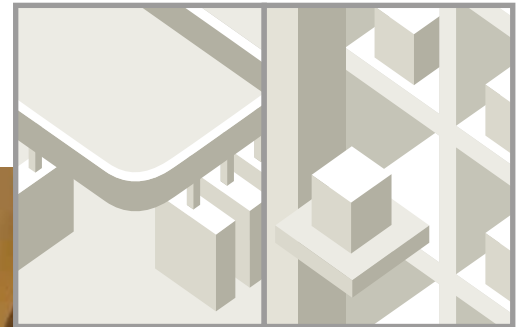


Automatic storage and order picking system for bicycles

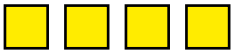


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Concept Information





As in many sectors of the distribution business, the distribution cost per unit and the effective time needed, from order entry time to delivery at the point of sale, are becoming more and more important for the distribution of bicycles. One of the specialties in distributing bicycles is that, the goods to be stored, sorted and order picked are difficult to handle and thus, a manual handling will become rapidly quite non-ergonomic, time consuming and resulting in high manpower requirements. This effects even more the economic efficiency of a distribution task with growing throughput rates and increasing sortation depth (area/tour/delivery address).

The automatic storage and order picking system for bicycles is a global approach with reference to the issues mentioned above. Because of the high economic efficiency of the global concept, which pays attention to all the inhouse material flows (from the end of the production line until loading to a truck) and which is capable to include all the side flows needed. The idea is both useful for mass production of bicycles and manufacturers of special and high value bicycles as well as for their 3rd party logistic solution providers.

Function

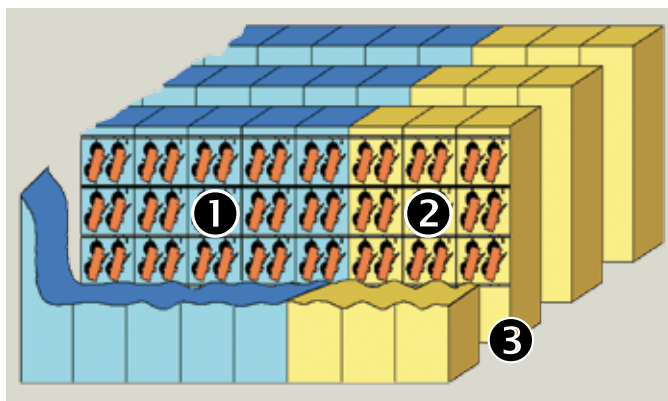
Core part of the psb solution is a compact high bay warehouse for hanging storage of bicycles, whereby the bicycles are stored hanging at their front wheel. In that core unit of the system

- besides storing of bicycles
- fully automatic sorting and order picking strategies can be realized, which cover the whole range up to complete sequencing on delivery (even down to a single bicycle).

For these functionalities, the full transport capacities of the *runloader*[®] stacker cranes available are used to perform a reorganisation of the bicycles from logical storage zone into logical order picking zones of the flexibly usable storage.

Thus, all sorting and order picking functions are implemented within the storage unit. Neither an additional system, nor separate space or additional staff, in a large extend, are required.

The storage is connected to the receiving and/or production as well as to despatch by a compact and concise *ets* electrical transport system. Resulting from that, staff requirements are mainly concentrated on loading and unloading bicycles to and from the warehouse system.



storage section

logically divided into storage area (1) and order picking area (2)

3 = instoring and retrieval

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