Claims

1. Method for handover of a plurality of parcels to several recipients and/or for receipt of parcels from several depositors,

c h a r a c t e r i s e d i n

that a joint optimized handover point for handover of parcels to the respective recipients and/or depositors within a specific handover period is determined for a plurality of parcels from a multiplicity of possible handover points spatially separated from one another, taking into account at least one effort parameter of at least one respective recipient and/or at least one respective depositor;

that the joint optimized handover point is determined by a selection from the multiplicity of possible spatially separated handover points with at least one selection step, the selection step taking into account effort parameters for the recipients and/or the depositors for which at least one effort parameter for the respective recipients and/or depositors is decreased during a handover period for the parcels;

that the joint optimized handover points are determined by an optimization procedure from a plurality of possible locations for depot facilities for the parcels for the handover of the parcels to the recipients;

that the optimisation procedure is carried out separately for different handover periods, so that for a first handover period, for example on a first day, at least partially different joint optimized handover points result than for another handover period on another day,

that at least a part of the depot facilities is designed as a mobile depot facility for storage and provision of a plurality of parcels within a planned handover period at one location as a joint optimized handover point for the handover of the a plurality of parcels to the respective recipients and/or by depositors of the a plurality of parcels,

that parcels planned for handover within the handover period are transferred to the depot facilities before the handover periods

and that the handover to the recipients and/or from the depositors takes place at the assigned joint optimized handover point within the planned handover period.

2. Method according to claim 1,

c h a r a c t e r i s e d i n

that the selection step for a predefinable high proportion, preferably above 80%, in particular 95%, of the parcels for handover at the joint optimized handover points

is carried out in such a way that a respective effort parameter does not exceed a predefined limit.

3. Method according to one of claims 1 or 2,

c h a r a c t e r i s e d i n

that for as many recipients and/or depositors of the parcels as possible, for the handovers within the respective planned handover period, a sum of additional time requirements for additional routes from "anyway-routes" and/or "anyway-locations" to the joint optimized handover point is limited by the effort parameter taking these time requirements into account.

4. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that the joint optimized handover point is selected not only by including the effort parameter for the respective recipient/depositor, but also by including effort parameters for other recipients/depositors.

5. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that for the selection of the joint optimized handover point for at least a part of the recipients and/or depositors, one or more locations indicated by the recipient and/or depositor for the handover of at least one parcel and/or one or more routes indicated by the recipient and/or depositor are taken into account.

6. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that predicted locations and/or routes of the recipients/depositors, which are taken into account for the selection of the joint optimized handover point for at least some of the recipients and/or depositors are determined by a self-learning system.

7. Method according to claim 6,

c h a r a c t e r i s e d i n

that the selection of the joint optimized handover point and the handover to the respective recipient and/or the handover by the respective depositors, where several of the recipients and/or depositors have different locations and/or travel different routes in a first and a second handover period, is carried out taking into account

a route between the specified locations which has been communicated in advance by the recipient and/or the depositor or is estimated by a route algorithm.

8. Method according to any of the preceding claims,
c h a r a c t e r i s e d i n
that the handover period is shorter than one day, allowing a daily or intraday optimisation of the handover points.

9. Method according to any of the preceding claims,
c h a r a c t e r i s e d i n
that the determination of the joint optimized handover point is carried out as a multi-stage process with several selection steps and in that at least one other selection step, taking into account at least one suitability parameter, is carried out before a selection step, which takes into account effort parameters for the recipients and/or the depositors, and in that at least one further selection step is carried out.

10. Method according to any of the preceding claims,
c h a r a c t e r i s e d i n
that a steering component controls the procedure.

11. A method according to any one of claims 9 or 10,
c h a r a c t e r i s e d i n
that at least one of the further selection steps takes into account the effort of an operator of the logistics system to provide a depot facility at the respective locations.

12. Method according to any of the preceding claims,
c h a r a c t e r i s e d i n
that a depot facility is provided at the joint optimized handover point for joint storage of the multiple parcels and for handover of the multiple parcels to the respective recipients of the multiple parcels and/or for deposit by the respective depositors of the multiple parcels at the associated joint optimized handover point within the planned handover period.

13. Method according to any of the preceding claims,
c h a r a c t e r i s e d i n

that additional local logistics is provided at a depot facility so that, in addition to the parcels planned for handover at the joint handover points, goods can be deposited to the depot facility, stored and handed over as parcels.

14. Method according to any of the preceding claims,
c h a r a c t e r i s e d i n
that the mobile depot facilities transport the parcels to the joint optimized handover points assigned to them and that during the planned handover period the parcels are stored in the mobile depot facilities and are made available for handover to the recipients of the parcels by using the depot facilities.

15. Method according to any of the preceding claims,
c h a r a c t e r i s e d i n
that a plurality of parcels planned for handover at one of the joint optimized handover points are transported to a transfer facility and, at the transfer facility, are transported as individual parcels to the mobile depot facilities and are transferred as individual parcels into one of the mobile depot facilities in such a way that storage of the parcels takes place in storage positions of a storage facility of the depot facility taking into account parcel identification characteristics.

16. Method according to any of the preceding claims,
c h a r a c t e r i s e d i n
that a singular transfer of the parcels takes place by means of at least one movable transport unit, wherein the movable transport unit can be controlled in such a way that it can transfer the singular parcels into the storage positions of the storage facility of the depot facilities taking into account the parcel identification characteristics.

17. Method according to any of the preceding claims,
c h a r a c t e r i s e d i n
that during a stay of the depot facility at the transfer facility, the following data elements are transmitted to the depot facility for each of the parcels transferred as individual parcels at the transfer facility:
- At least one of the parcel identification characteristics that is suitable to enable a reliable identification of a respective parcel and
- information for identification of the storage position within the storage facility of the depot facility, in particular for the storage of the respective parcel.

18. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that parcels that are not handed over at the joint optimized handover point during the initial handover period are transported to a transfer facility at the end of the handover period.

19. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that parcels stored in one of the depot facilities are transported within the depot facility by a transport unit in response to a received hand out request into a hand-over facility and are made accessible to the recipients of the parcels there and/or are transported to respective recipients by means of a handover unit and in that the parcels are made accessible to the respective recipients by the handover unit.

20. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that a deposit of a parcel by a depositor in the depot facility includes the following procedural steps:

- Capture of at least one parcel identification characteristic, if necessary also by a user component;
- Activation of a handover gate;
- Assignment of a storage position of a storage unit of the depot facility to the parcel taking into account the parcel identification characteristic;
- Transport of the parcel to a storage position of a storage unit of the depot facility.

21. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that a deposit of a parcel by a depositor at a handover unit includes the following procedural steps:

- Activation of the handover unit;
- Capture of at least one parcel identification characteristic, if necessary also by a user component;
- Handover of the parcel to the handover unit;
- Transport of the parcel to the depot facility;

- Assignment of a storage position of a storage unit of the depot facility to the parcel taking into account the parcel identification characteristic;
- Transport of the parcel to the storage position of the storage facility of the depot facility.

22. A method of handover of a plurality of parcels to a plurality of recipients and/or from a plurality of depositors, in particular according to any one of claims 1 to 21,

c h a r a c t e r i s e d i n

that at least one depot facility is used, wherein the depot facility comprises a storage unit with at least one storage rack and wherein compartments of the storage rack form storage positions of the depot facility and that a number and/or at least one dimension of the compartments is variable and wherein the number and/or the dimension of the compartments is variably adapted in dependence on a number and/or a dimension of parcels to be delivered to and stored in the depot facility.

23. The method according to claim 22,

c h a r a c t e r i s e d i n

that the variable adaptability of the number and/or the dimensions of the compartments of depot facilities is taken into account in a determination of joint optimized handover points for a handover of the parcels to the respective recipients and/or for the delivery by the depositors of the parcels within a certain handover period.

24. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that an order of a good from at least one of the customers is accepted as an order request by an order system for processing order requests from customers, that a request to handover the parcel to a recipient is transmitted from the order system to a control component of a logistics system on the basis of the order request, that the order request contains a recipient identification characteristic assigned to the recipient, that the control component checks whether a recipient data set with localisation information is available for the recipient identification characteristics , and that, if the recipient data set with localisation information is available and at least one processing operation of the logistics system is carried out taking into account the localisation information.

25. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that, when determining the joint optimized handover point over the course of a day , different locations for a depot facility are optimised and that the depot facility is in use at the different locations over the course of the day.

26. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that a variable adaptability of the number and/or the dimensions of compartments of storage racks of depot facilities is taken into account in a determination of joint optimized handover points for a handover of the parcels to the respective recipients and/or for the delivery by the depositors of the parcels within a certain handover period.

27. The method according to claim 8,

c h a r a c t e r i s e d i n

that the selection steps refer to different time periods for optimising the joint handover point.

28. The method according to claim 8,

c h a r a c t e r i s e d i n

that general location properties are taken into account in the first selection step, that a long list of all potential locations is transformed by the selection step into a list of locations which are in principle qualified for the handover of parcels, and that, in the further selection step following the first selection step, those handover points, in particular locations for depot facilities, are determined for which - within a handover period determined as an optimisation period for the parcels - a respective effort parameter for the commissioning of the depot facilities is as low as possible.

29. The method according to claim 8,

c h a r a c t e r i s e d i n

that in a selection step preceding other selection steps, in particular in the first selection step, locations at which the respective depot facility can be parked are determined and taken into account.

30. The method according to claim 8,

c h a r a c t e r i s e d i n

that, in a third selection step, those handover points are determined at which - within a handover period for the parcels preferably determined as an optimisation period - a respective effort parameter for the depositors and/or recipients of parcels at the depot facilities is low.

31. A method according to any one of claims 16 to 30,

c h a r a c t e r i s e d i n

that the individual parcels are rotated before their transfer to the storage positions so that they have a defined orientation.

32. The method according to claim 31,

c h a r a c t e r i s e d i n

that the individual parcels are rotated during a stay on a transfer platform of a transport unit.

33. A method according to any one of claims 31 or 32,

c h a r a c t e r i s e d i n

that the individual parcels are rotated during a stay on a conveyor belt.

34. Method according to any of the preceding claims,

c h a r a c t e r i s e d i n

that a parcel identification code is assigned and/or recorded for as many parcels as possible, preferably for each parcel, and is subsequently stored as a primary parcel identification characteristic, that at least one secondary parcel identification characteristic different from the primary parcel identification characteristic is assigned to the parcel, and that at least one processing operation of the parcel is carried out on the basis of the secondary parcel identification characteristic.

35. The method according to claim 34,

c h a r a c t e r i s e d i n

that the parcel identification code is formed by a logistics system or a steering component of the logistics system from at least one characteristic of the parcel transmitted by the shipper, this characteristic being such that it is captured during at least one of the processing operations of the parcel and is taken into account during the processing of the parcel.

36. Method according to claim 34 or 35,

c h a r a c t e r i s e d i n

that the parcel identification code is formed by a logistics system or a steering component of the logistics system from at least two characteristics of the parcel transmitted by the shipper, these characteristics being such that they are recorded together in at least one of the processing operations of the parcel and that the parcel identification code is taken into account in at least one processing operation of the parcel.

37. A method according to any one of the preceding claims 34 to 36,

c h a r a c t e r i s e d i n

that the secondary parcel identification characteristic is easier and/or faster to identify than the primary parcel identification characteristic.

38. A method according to any one of the preceding claims 34 to 37,

c h a r a c t e r i s e d i n

that the secondary parcel identification characteristic is used alone or in combination with further secondary parcel identification characteristics to control a correctness that a parcel is the parcel identified by the primary parcel identification characteristic and/or to steer a further processing operation.

39. A method according to any one of the preceding claims 34 to 38,

c h a r a c t e r i s e d i n

that the primary parcel identification characteristic is used for the formation of a digital twin of the parcel and at least one of the secondary parcel identification characteristics is assigned to a digital twin of the parcel.

40. A method according to any one of the preceding claims 34 to 39,

c h a r a c t e r i s e d i n

that the parcel identification code is a physical code or combination of physical codes, the code or the combination being directly associated with the parcel and readable.

41. A method according to any one of the preceding claims 34 to 40,

c h a r a c t e r i s e d i n

a primary parcel identification characteristic is checked by means of a readable data carrier of a shipper connected to the parcel, and that the primary parcel identification characteristic is taken into account in at least one processing operation of the parcel.

42. A method according to any one of the preceding claims 34 to 41,

c h a r a c t e r i s e d i n

that at least one of the following properties of a parcel is captured as a secondary parcel identification characteristic and is taken into account when carrying out at least one processing operation:

- Weight of the parcel;
- Dimensions of the parcel;
- Shape of the parcel;
- Shipper identification characteristics;
- Picture of the parcel;
- Colour of the parcel;
- Data contents of a readable data carrier;
- Information about one or more completed processing operations;
- Spectroscopic response of the parcel.

43. A method according to any one of the preceding claims 34 to 42,

c h a r a c t e r i s e d i n

that at least one of the following processing operations of the parcels is carried out taking into account at least two parcel identification characteristics which are different from one another:

- Deposit of parcels;
- Selection procedure (determination procedure) for determining a joint optimized handover point for several recipients and/or depositors;
- Sorting in distribution centres;
- Sorting at logistical nodes;
- Routing at a node of the logistics system;
- Transport between distribution centres;
- Transport between distribution centres and logistical nodes;
- Transport between logistical nodes;
- Sorting in delivery depots;
- Loading of depot facilities;

- Autonomous and/or semi-autonomous transport to joint optimized handover points;
- Autonomous and/or semi-autonomous transport to individual handover points;
- Handover of a plurality of parcels at a joint optimized handover point within a handover period;
- Handover of parcels at individual handover points;
- Acceptance/deposit of a plurality of parcels at a joint optimized handover point within a handover period;
- Acceptance/deposit of parcels at an individual handover point;
- Use of depot facilities for the storage of parcels;
- Use of depot facilities for the acceptance of parcels;
- Use of depot facilities for commissioning of parcels;
- Use of depot facilities for the handing out of parcels; and
- Use of depot facilities as sales facilities.

44. A method according to any one of the preceding claims 34 to 43,

c h a r a c t e r i s e d i n

that at least two of the following processing operations of the parcels are carried out taking into account at least two parcel identification characteristics which are different from one another:

- Deposit of parcels;
- Selection procedure (determination procedure) for determining a joint optimized handover point for several recipients and/or depositors;
- Sorting in distribution centres;
- Sorting at logistical nodes;
- Routing in the area of a node of the logistics system;
- Transport between distribution centres;
- Transport between distribution centres and logistical nodes;
- Transport between logistical nodes;
- Sorting in delivery depots;
- Loading of depot facilities;
- Autonomous and/or semi-autonomous transport to joint optimized handover points;
- Autonomous and/or semi-autonomous transport to individual handover points;

- Handover of a plurality of parcels at a joint optimized handover point within a handover period;
- Handover of parcels at individual handover points;
- Acceptance of multiple parcels at a joint optimized handover point within a handover period;
- Acceptance of parcels at an individual handover point;
- Use of depot facilities for the storage of parcels;
- Use of depot facilities for the acceptance of parcels;
- Use of depot facilities for commissioning of parcels;
- Use of depot facilities for the handover of parcels; and
- Use of depot facilities as sales facilities.

45. A method according to any one of the preceding claims 34 to 44,

c h a r a c t e r i s e d i n

that two secondary parcel identification characteristics different from each other are used for the identification of the parcel.

46. A method according to any one of the preceding claims 34 to 45,

c h a r a c t e r i s e d i n

that a deposit of a parcel by a depositor includes at least one of the following procedural steps:

- Capture of at least one of the parcel identification characteristics, if necessary also by a user component;
- Handover of the parcel to a handover unit and/or a handover gate;
- Transport of the parcel to the depot facility;
- Transport of the parcel into a storage position of a storage unit of the depot facility.

47. A method according to any one of the preceding claims 34 to 46,

c h a r a c t e r i s e d i n

that, after the parcel identification code or other parcel identification characteristics which permit a unique/reliable identification of a parcel have been established and/or captured, a controlled and/or measured transport route and/or sorting route of the parcel is planned and/or tracked, so that a subsequent processing operation of the parcel, in particular a sorting of the parcel and/or a transport of the parcel - on the basis of a combination of the previously determined parcel identification code and/or parcel identification characteristic with a determination of another,

preferably more easily and/or more quickly measurable secondary parcel identification characteristic - is carried out as precisely as is the case with a determination of the parcel identification code itself.

48. A depot facility, in particular for use in a method according to any one of the preceding claims,

c h a r a c t e r i s e d i n

that it is designed as a mobile depot facility for storage and provision of a plurality of parcels within a planned handover period at one location as a joint optimized handover point for handover of the plurality of parcels to the respective recipients and/or by depositors of the plurality of parcels,

that the depot facility can be connected to an assignment means for assigning parcel identification characteristics to the storage positions, that at least one transport path is located in the depot facility, it being possible for at least one transport unit to move along the transport path, the transport unit being set up such that it can support the removal of parcels from a parcels shipment flow, in particular on the basis of parcel identification characteristics, that, using the transport unit, it is possible to transport the parcels from the parcels shipment flow into storage positions of the depot facility, and that the transport of the parcels by the transport units within the depot facility can be steered taking into account the storage positions assigned to the respective parcels on the basis of the parcel identification characteristics.

49. The depot facility of claim 48,

c h a r a c t e r i s e d i n

that the transfer facility and/or the transport unit are set up in such a way that a transport of parcels from the assigned storage positions in the depot facility to a handover gate is made possible on the basis of parcel identification characteristics.

50. The depot facility of claim 48 or 49,

c h a r a c t e r i s e d i n

that the depot facility has at least one handover gate for handovers of parcels at joint handover points and at least one handover unit for handovers at individual handover points different from the joint handover points.

51. A depot facility, in particular a depot facility according to any one of claims 48 to 50,

c h a r a c t e r i s e d i n

that it contains at least one transport unit which can be moved outside the depot facility.

52. A depot facility, according to any one of claims 50 or 51,

c h a r a c t e r i s e d i n

that the handover gate and/or a handover unit are designed as a handover unit for handing over parcels to recipients and/or as receiving unit for receiving parcels from a depositor.

53. A depot facility, according to any one of claims 48 to 52,

c h a r a c t e r i s e d i n

that the transport unit can autonomously carry out a transport as a handover unit from a location of the depot facility to the individual handover point for the individual recipient and/or for the individual depositor and can carry out the delivery of the parcel to the recipient and/or the acceptance of the parcel from the depositor at the individual handover point.

54. A depot facility, in particular a depot facility according to any one of claims 48 to 53,

c h a r a c t e r i s e d i n

that it is designed for storage and provision of a plurality of parcels and that it has at least two different loading modes and/or at least two different unloading modes.

55. The depot facility of claim 54,

c h a r a c t e r i s e d i n

that, in a first loading mode, an uninterrupted path is formed between an environment of the depot facility and an interior of the depot facility.

56. The depot facility of any one of claims 54 or 55,

c h a r a c t e r i s e d i n

that in a second loading mode an individual storage of a parcel can take place using a .handover gate.

57. The depot facility of claim 54,

c h a r a c t e r i s e d i n

that, in a first unloading mode, an uninterrupted path is formed between an interior space of the depot facility and an environment of the depot facility.

58. The depot facility of any one of claims 54 or 57,

c h a r a c t e r i s e d i n

that in a second unloading mode an individual handover of a parcel to a recipient can take place using the handover gate.

59. The depot facility of any one of claims 48 to 58,

c h a r a c t e r i s e d i n

that the mobile depot facility is designed as a logistics vehicle.

60. The depot facility of any one of claims 48 or 59,

c h a r a c t e r i s e d i n

that it has a door which occupies as far as possible the entire rear of the depot facility.

61. Use of a depot facility, in particular a depot facility according to any one of claims 48 to 59,

c h a r a c t e r i s e d i n

that the depot facility is provided for carrying out a method for handover of a plurality of parcels to a plurality of recipients and/or for receiving a plurality of parcels from a plurality of depositors, in which for a plurality of parcels a joint optimized handover point for handover to the respective recipients and for acceptance by the depositors within a specific handover period is determined from a plurality of possible handover points spatially separated from one another, taking into account at least one effort parameter, and that the handover to the recipients and/or the acceptance by the depositors takes place at the assigned joint optimized handover point within the planned handover period.

62. Use of a depot facility according to any one of claims 48 to 59,

c h a r a c t e r i s e d i n

that the depot facility is used at a distribution centre and/or a delivery depot as a temporary storage facility for parcels.

63. Use of a depot facility according to any one of claims 48 to 59,

c h a r a c t e r i s e d i n

that the depot facility is made available for joint storage of a plurality of parcels and for handover to recipients and/or by depositors of the plurality of parcels during an operation at a joint optimized handover point within a planned handover period for

carrying out the method according to one of claims 1 to 5 at a joint optimized handover point, and that the depot facility is used during a stay in the area of a distribution centre and/or a delivery depot as a temporary storage facility for parcels.

64. System for handover of a large number of parcels to a plurality of recipients and/or for receipt of a large number of parcels from a plurality of depositors,

c h a r a c t e r i s e d i n

that it is set up for carrying out a procedure for handover of a plurality of parcels to a plurality of recipients and/or for acceptance of a plurality of parcels from a plurality of depositors, that in each case for a plurality of parcels a joint optimized handover point for handover to the respective recipients and/or for acceptance from the depositors within a specific handover period can be determined from a plurality of possible handover points spatially separated from one another, taking into account at least one effort parameter, and that the handover to the recipients and the acceptance from the depositors can take place at the assigned joint optimized handover point within the planned handover period,

and that the system has at least one distribution centre and/or at least one delivery depot and that the system has, at the at least one distribution centre and/or the at least one delivery depot, at least one means for transferring the parcels to a transfer facility, that the system has a steering component, the steering component being set up in such a way that the steering component can steer the transfer facility in such a way that the transfer facility can carry out the transport of the parcels in accordance with steering instructions from the steering component, the parcels being transported in the area of the transfer facility as individual parcels by transport units.

65. System according to claim 64,

c h a r a c t e r i s e d i n

that it has a plurality of depot facilities, at least some of the depot facilities being designed as mobile depot facilities, and that the control component is further set up in such a way that it can control a transport of the mobile depot facilities from the transfer facility to installation locations as joint optimized handover points for the handover of the parcels.

66. System according to claim 64 or 65,

c h a r a c t e r i s e d i n

that it has a means for selecting a joint optimized handover point from the plurality of possible handover points for handover to the respective recipients and/or for receipt from the respective depositors within the planned handover period, and that it has a depot facility for handover to the recipient and/or for receipt from the respective depositors at the joint optimized handover point within the planned handover period.

67. A system according to any one of claims 64 to 66,

c h a r a c t e r i s e d i n

that in addition to the parcels planned for handover at the joint handover points, goods objects can be deposited to, stored at and handed over as parcels at the depot facility.

68. System according to claim 67,

c h a r a c t e r i s e d i n

that at least a part of the goods objects can be handed out at the depot facility where they were deposited as parcels.

69. A system according to any one of claims 64 to 68,

c h a r a c t e r i s e d i n

that it has a means for capturing a plurality of potential locations for depot facilities, in particular mobile depot facilities, and that it contains a means for assigning the depot facilities, in particular the mobile depot facilities, to the joint optimized handover points as locations for the depot facilities, in particular the mobile depot facilities.

70. System according to claim 69,

c h a r a c t e r i s e d i n

that it has at least one means for controlling the transfer facilities, it being possible to control the transfer facilities in such a way that the parcels planned for handover at a handover point, in particular at a joint optimized handover point, are transported into the mobile depot facility assigned to the handover point, in particular to the joint optimized handover point.

71. A system according to any one of claims 69 or 70,

c h a r a c t e r i s e d i n

that it contains means for transmitting geographical information on the joint optimized handover points to the depot facilities and/or a transport means for transporting the depot facilities, so that a transport of the depot facilities to the joint optimized handover points can take place taking into account the geographical information.

72. A system according to any one of claims 64 to 71,

c h a r a c t e r i s e d i n

that it is designed as a logistics system with an associated ordering system, that the ordering system is designed in such a way that, for a selection of the joint optimized handover points for the parcels, a plurality of handover points can be selected taking into account a self-learning system, and that the handover to the respective recipients and/or the deposition by the respective depositors at the joint optimized handover points takes place taking into account expected locations and/or routes of the recipients/depositors determined by the self-learning system.

73. System according to any one of claims 64 to 72

c h a r a c t e r i s e d i n

that it has a user component which contains a processor for controlling functions of the user component, that the user component contains at least one position-determining means, the position-determining means being set up in such a way that it can capture positions of the user component as localisation information of a user of the user component, that the user component contains a means for transmitting the localisation information to the system, that the user component can interact with a storage means, which is specially protected against unauthorized access, for storing data protection requests of a user of the user component, that the data protection requirements of the user include a location-dependent specification of which localisation information is transmitted to the system for localisation of the user component, that the processor carries out an evaluation of the extent to which and/or the accuracy with which a transmission of the localisation information corresponds to the data protection requirements of the user, and that a transmission of the localisation information to the system takes place only to the extent which and/or with the accuracy which corresponds to the data protection requirements of the user.

74. A system according to any one of claims 64 to 73,

c h a r a c t e r i s e d i n

that it has a user app and the user app is designed to transmit localisation information of a user to a control component of the system, it being possible for the user app to interact with a storage means, which is specially protected against unauthorised access, for storing data protection requirements of the user, that the data protection requirements of the user include a specification of which localisation information is transmitted to the system for localising the user component, that the processor carries out an evaluation on the extent and/or accuracy to which a transmission of the location information meets the user's privacy requirements, and that a transmission of the location information to the system is only carried out to the extent and/or accuracy that meets both the user's privacy requirements and the extent necessary to support a selection of joint optimized handover points by transmitting the location information and/or to support a parcel handover in close proximity to a handover means.

,

75. A system according to any one of claims 64 to 74,

c h a r a c t e r i s e d i n

that the control component forwards information on parcel identification characteristics to the transfer facility so that the parcels can be stored in the storage positions of the storage units of the depot facilities on the basis of the parcel identification characteristics.

76. A system according to any one of claims 64 to 75,

c h a r a c t e r i s e d i n

that the transport units of the transfer facility are designed to support storage of the parcels in storage positions of storage facilities of the depot facilities.

77. A system according to any one of claims 64 to 76,

c h a r a c t e r i s e d i n

that the control component forwards information on parcel identification characteristics to the transfer facility so that the parcels can be stored in the storage positions of the storage units of the depot facilities on the basis of the parcel identification characteristics.

78. A logistics system for handover of a plurality of parcels, preferably for use in a method according to claim 1 or a system according to claim 64, wherein the logistics system is arranged to hand over parcels of a plurality of shippers to a plurality of recipients, and

wherein the logistics system is further arranged to perform at least one processing operation of the parcels based on a respective parcel identification code assigned to the parcels,

c h a r a c t e r i s e d i n

that the parcels each have at least one recipient attribute, that a control component of the logistics system has an interface for receiving recipient attributes of the parcels, that the control component has a means for determining positions of the parcels in the course of their transport route, and that the control component is furthermore set up in such a way that it can assign to the plurality of parcels in the course of the transport route of the respective parcels, as a function of the positions of the parcels, changing proportions of fixed recipient attributes and variable recipient attributes assigned to them in each case.

79. The logistics system of claim 78 for handover of a plurality of parcels transported from shippers to recipients by a logistics system,

c h a r a c t e r i s e d i n

that, in the course of a transport route, a plurality of parcels are assigned changing proportions of fixed recipient attributes and variable recipient attributes, assigned to them respectively.

80. Logistics system according to claim 79,

c h a r a c t e r i s e d i n

that at least some of the recipient attributes are components of a recipient address depth, the proportion of the fixed recipient attributes, taken into account in the recipient address depth and assigned to the parcels in each case, being variable in a time sequence of individual production stages of a logistics company from a handover by the shipper to a final handover to the recipient.

81. Logistics system according to claim 80,

c h a r a c t e r i s e d i n

that components of the recipient address depth are the leading digit of a postcode and further digits of the postcode.

82. A logistics system according to any one of claims 80 or 81,

c h a r a c t e r i s e d i n

that a street and/or a street section or a house number and/or a flat number are components of the recipient address depth.

83. A logistics system according to any one of claims 80 to 82,

c h a r a c t e r i s e d i n

that joint optimized handover points are components of the recipient address depth.

84. A logistics system according to any one of claims 80 to 83,

c h a r a c t e r i s e d i n

that individual handover points are components of the recipient address depth.

85. A logistics system according to any one of the preceding claims 78 to 84,

c h a r a c t e r i s e d i n

that a control component of the logistics system receives instructions from the shippers via an interface for receiving instructions from the shippers, that the instructions from the respective shippers each contain at least one instruction for defining further or modified variable recipient attributes of at least one selected parcel, and that the logistics system carries out at least one processing operation of the selected parcel taking into account the further or modified variable recipient attributes assigned to the selected parcel, which thereby become fixed recipient attributes.

86. Logistics system according to claim 85,

c h a r a c t e r i s e d i n

that a parcel identification code is used to identify the selected parcel, and that at least one subsequent processing operation of the parcel is carried out both taking into account the further or modified recipient attribute assigned to the selected parcel and as well as the parcel identification code.

87. Logistics system according to claim 86,

c h a r a c t e r i s e d i n

that the parcel identification code contains at least one shipper identification characteristics, the shipper identification characteristic identifying the shipper.

88. A logistics system according to any one of claims 86 or 87,

c h a r a c t e r i s e d i n

that the parcel identification code is stored as a primary parcel identification characteristic, that at least one secondary parcel identification characteristic different from the primary parcel identification characteristic is assigned to the parcel, and

that at least one processing operation of the parcel is carried out on the basis of the secondary parcel identification characteristic.

89. Logistics system according to claim 88,

c h a r a c t e r i s e d i n

that the secondary parcel identification characteristic is easier and/or faster to identify than the primary parcel identification characteristic.

90. A logistics system according to any one of claims 86 to 89,

c h a r a c t e r i s e d i n

that both the parcel identification code and at least one fixed recipient attribute and/or at least one of the variable recipient attributes are assigned to a digital twin of the parcel.

91. A logistics system according to any one of claims 86 to 90,

c h a r a c t e r i s e d i n

that the processing operations are supplemented by the provision of process protocols, including individual process protocols for the individual parcels, and that the process protocols are used to control the processing operations.

92. A logistics system according to any one of claims 86 to 91,

c h a r a c t e r i s e d i n

that at least one of the subsequent processing operations of the parcel is carried out taking into account at least one of the variable recipient attributes:

- Deposit of parcels;
- Selection procedure (determination procedure) for determining a joint optimized handover point for several recipients and/or depositors;
- Sorting in distribution centres;
- Sorting at logistical nodes;
- Routing in the range of a node of the logistics system;
- Transport between distribution centres;
- Transport between distribution centres and logistics nodes;
- Transport between logistical nodes;
- Sorting in delivery depots;
- Loading of depot facilities;
- Autonomous and/or semi-autonomous transport to joint optimized handover points;

- Autonomous and/or semi-autonomous transport to individual handover points;
- Handover of a plurality of parcels at a joint optimized handover point within a handover period;
- Handover of parcels at individual handover points;
- Acceptance of a plurality of parcels at a joint optimized handover point within a handover period;
- parcels at individual handover points;
- Use of depot facilities for the storage of parcels;
- Use of depot facilities for receiving parcels;
- Use of depot facilities for order picking of parcels;
- Use of depot facilities for the handing out of parcels; and
- Use of depot facilities as sales facilities

93. Use of the logistics system according to claim 78 for performing a method of handover of a plurality of parcels according to any one of claims 1 to 47.

94. Use according to claim 93 for flexibly assigning a final recipient and/or a final handover point.

Claims

1. A method for handover of a plurality of parcels to several recipients and/or for receipt of parcels from several depositors, the method comprising:

determining a joint optimized handover point for handover of parcels to the respective recipients and/or depositors within a specific handover period for a plurality of parcels from a multiplicity of possible handover points spatially separated from one another, taking into account at least one effort parameter of at least one respective recipient and/or at least one respective depositor;

determining the joint optimized handover point by a selection from the multiplicity of possible spatially separated handover points with at least one selection step, the selection step taking into account effort parameters for the recipients and/or the depositors for which at least one effort parameter for the respective recipients and/or depositors is decreased during a handover period for the parcels;

determining the joint optimized handover points by an optimization procedure from a plurality of possible locations for depot facilities for the parcels for the handover of the parcels to the recipients;

performing the optimisation procedure separately for different handover periods, so that for a first handover period, on a first day, at least partially different joint optimized handover points result than for another handover period on another day;

wherein at least a part of the depot facilities is designed as a mobile depot facility for storage and provision of a plurality of parcels within a planned handover period at one location as a joint optimized handover point for the handover of the plurality of parcels to the respective recipients and/or by depositors of the plurality of parcels,

transferring parcels planned for handover within the handover period to the depot facilities before the handover periods; and

wherein the handover to the recipients and/or from the depositors takes place at the assigned joint optimized handover point within the planned handover period.

2. The method according to claim 1, wherein above 80% of the parcels for handover at the joint optimized handover points is carried out so that a respective effort parameter does not exceed a predefined limit.

3. The method according to claim 1, wherein for as many recipients and/or depositors of the parcels as possible, for the handovers within the respective planned handover period, a sum of additional time requirements for additional routes from "anyway-routes" and/or "anyway-locations" to the joint optimized handover point is limited by the effort parameter taking these time requirements into account.

4. The method according to claim 1, wherein the joint optimized handover point is selected not only by including the effort parameter for the respective recipient/depositor, but also by including effort parameters for other recipients/depositors.

5. The method according to claim 1, wherein for the selection of the joint optimized handover point for at least a part of the recipients and/or depositors, one or more locations indicated by the recipient and/or depositor for the handover of at least one parcel and/or one or more routes indicated by the recipient and/or depositor are taken into account.

6. The method according to claim 1, wherein predicted locations and/or routes of the recipients/depositors, which are taken into account for the selection of the joint optimized handover point for at least some of the recipients and/or depositors are determined by a self-learning system.

7. The method according to claim 6, wherein the selection of the joint optimized handover point and the handover to the respective recipient and/or the handover by the respective depositors, where several of the recipients and/or depositors have different locations and/or travel different routes in a first and a second handover period, is carried out taking into account a route between the specified locations which has been communicated in advance by the recipient and/or the depositor or is estimated by a route algorithm.

8. The method according to claim 1, wherein the handover period is shorter than one day, allowing a daily or intraday optimisation of the handover points.

9. The method according to claim 1, wherein the determination of the joint optimized handover point is carried out as a multi-stage process with several selection steps and in that at least one other selection step, taking into account at least one suitability parameter, is carried out before a selection step, which takes into account effort parameters for the recipients and/or the depositors, and in that at least one further selection step is carried out.

10. The method according to claim 1, comprising a control component that controls the optimisation procedure.

11. The method according to claim 9, wherein at least one of the further selection steps takes into account effort of an operator of the logistics system to provide a depot facility at the respective locations.

12. A method according to claim 1, wherein the depot facility is provided at the joint optimized handover point for joint storage of the multiple parcels and for handover of the multiple parcels to the respective recipients of the multiple parcels and/or for deposit by the respective depositors of the multiple parcels at the associated joint optimized handover point within the planned handover period.

13. The method according to claim 1, wherein additional local logistics are provided at the depot facility so that, in addition to the parcels planned for handover at the joint handover points, goods can be deposited to the depot facility, stored and handed over as parcels.

14. The method according to claim 1, wherein a parcel identification code is assigned and/or recorded for as many parcels as possible and is subsequently stored as a primary parcel identification characteristic, that at least one secondary parcel identification characteristic different from the primary parcel identification characteristic is assigned to the parcel, and that at least one processing operation of the parcel is carried out on the basis of the secondary parcel identification characteristic.

15. The method according to claim 14, wherein a primary parcel identification characteristic is checked by a readable data carrier of a shipper connected to the parcel, and that the primary parcel identification characteristic is taken into account in at least one processing operation of the parcel.

16. The method according to claim 14, wherein at least one of the following properties of a parcel is captured as a secondary parcel identification characteristic and is taken into account when carrying out at least one processing operation:

- Weight of the parcel;
- Dimensions of the parcel;
- Shape of the parcel;
- Shipper identification characteristics;

- Picture of the parcel;
- Colour of the parcel;
- Data contents of a readable data carrier;
- Information about one or more completed processing operations; or
- Spectroscopic response of the parcel.

17. The method according to claim 14, wherein a deposit of a parcel by a depositor includes at least one of:

- Capture of at least one of the parcel identification characteristics, if necessary also by a user component;
- Handover of the parcel to a handover unit and/or a handover gate;
- Transport of the parcel to the depot facility; or
- Transport of the parcel into a storage position of a storage unit of the depot facility.

18. The method according to claim 14, wherein after the parcel identification code or other parcel identification characteristics which permit a unique/reliable identification of a parcel have been established and/or captured, a controlled and/or measured transport route and/or sorting route of the parcel is planned and/or tracked, so that a subsequent processing operation of the parcel, on the basis of a combination of the previously determined parcel identification code and/or parcel identification characteristic with a determination of another secondary parcel identification characteristic - is carried out as precisely as is the case with a determination of the parcel identification code itself.

19. A depot facility, comprising:

a mobile depot facility for storage and provision of a plurality of parcels within a planned handover period at one location as a joint optimized handover point for handover of the plurality of parcels to the respective recipients and/or by depositors of the plurality of parcels;

an assignment system in communication with the mobile depot facility, the assignment system assigning parcel identification characteristics to the storage positions; and

at least one transport unit being moveable along a transport path located in the depot facility, the transport unit being set up such that it can support the removal of parcels from a parcels shipment flow, in particular on the basis of parcel identi-

fication characteristics, the transport unit transporting the parcels from the parcels shipment flow into storage positions of the depot facility, wherein the transport of the parcels by the transport units within the depot facility can be controlled taking into account the storage positions assigned to the respective parcels on the basis of the parcel identification characteristics.

20. The depot facility of claim 19, wherein the transport of parcels from the assigned storage positions in the depot facility to a handover gate is done on the basis of parcel identification characteristics.

21. The depot facility of claim 19, wherein the depot facility has at least one handover gate for handovers of parcels at joint handover points and at least one handover unit for handovers at individual handover points different from the joint handover points.

22. The depot facility according to claim 19, wherein the at least one transport unit can be moved outside the depot facility.

23. The depot facility according to claim 21, wherein the handover gate is adapted to hand over parcels to recipients and/or to receive parcels from a depositor.

24. The depot facility according to claim 19, wherein the transport unit autonomously carries out a transport as a handover unit from a location of the depot facility to the individual handover point for the individual recipient and/or for the individual depositor and carries out the delivery of the parcel to the recipient and/or the acceptance of the parcel from the depositor at the individual handover point.

25. The depot facility according to claim 19, wherein the depot facility stores and provisions a plurality of parcels and has at least two different loading modes and/or at least two different unloading modes.

26. The depot facility of claim 25, wherein, in a first loading mode, an uninterrupted path is formed between an environment of the depot facility and an interior of the depot facility.

27. The depot facility of claim 25, wherein, in a second loading mode an individual storage of a parcel takes place using a handover gate.

28. The depot facility of claim 25, wherein, in a first unloading mode, an uninterrupted path is formed between an interior space of the depot facility and an environment of the depot facility.

29. The depot facility of claim 25, wherein, in a second unloading mode an individual handover of a parcel to a recipient takes place using the handover gate.

30. A system for handover of a large number of parcels to a plurality of recipients and/or for receipt of a large number of parcels from a plurality of depositors, comprising:

a depot facility for carrying out a procedure for handover of a plurality of parcels to a plurality of recipients and/or for acceptance of a plurality of parcels from a plurality of depositors, wherein in each case for a plurality of parcels a joint optimized handover point for handover to the respective recipients and/or for acceptance from the depositors within a specific handover period can be determined from a plurality of possible handover points spatially separated from one another, taking into account at least one effort parameter, and wherein the handover to the recipients and the acceptance from the depositors can take place at the assigned joint optimized handover point within the planned handover period;

a distribution centre that transfers the parcels to a transfer facility; and

a control component that controls the transfer facility to carry out the transport of the parcels in accordance with control instructions from the control component, the parcels being transported in the area of the transfer facility as individual parcels by transport units.

31. The system according to claim 30, comprising a plurality of depot facilities, at least some of the depot facilities being designed as mobile depot facilities, and wherein the control component controls a transport of the mobile depot facilities from the transfer facility to installation locations as joint optimized handover points for the handover of the parcels.

32. A system according to claim 30, comprising:

a component that selects a joint optimized handover point from the plurality of possible handover points for handover to the respective recipients and/or for receipt from the respective depositors within the planned handover period, and wherein the

depot facility performs handover to the recipient and/or receipt from the respective depositors at the joint optimized handover point within the planned handover period.

33. The system according to claim 30, wherein, in addition to the parcels planned for handover at the joint handover points, goods and/or objects can be deposited to, stored at and handed over as parcels at the depot facility.

34. The system according to claim 33, wherein at least a part of the goods and/or objects can be handed out at the depot facility where they were deposited as parcels.

35. The system according to claim 30, comprising:

a component that captures a plurality of potential locations; for mobile depot facilities and

an assignment component that assigns the mobile depot facilities to the joint optimized handover points.

36. The system according to claim 35, comprising:

a component that controls the transfer facilities to operate the transfer units so the parcels planned for handover at a handover point are transported into the mobile depot facility assigned to the handover point.

37. The system according to claim 35, comprising:

a component that transmits geographical information on the joint optimized handover points to the depot facility; and/or

a component that transports the depot facility, so that a transport of the depot facility to the joint optimized handover points can take place taking into account the geographical information.

38. The system according to claim 30, comprising:

a control component that forwards information on parcel identification characteristics to the transfer facility so that the parcels can be stored in the storage positions of the storage units of the depot facilities on the basis of the parcel identification characteristics.

39. The system according to claim 30, wherein the transport units of the transfer facility support storage of the parcels in storage positions of storage facilities of the depot facilities.

40. The system according to claim 30, comprising:

a control component that forwards information on parcel identification characteristics to the transfer facility so that the parcels can be stored in the storage positions of the storage units of the depot facilities on the basis of the parcel identification characteristics.