



EcoLogistics

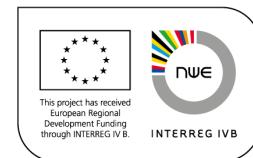


Sharing standardized track & trace data
Urban logistics workflow



www.ecologistics-project.eu

Yves de BLIC - MULTITEL

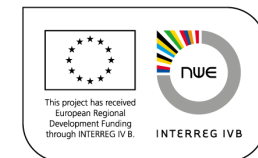
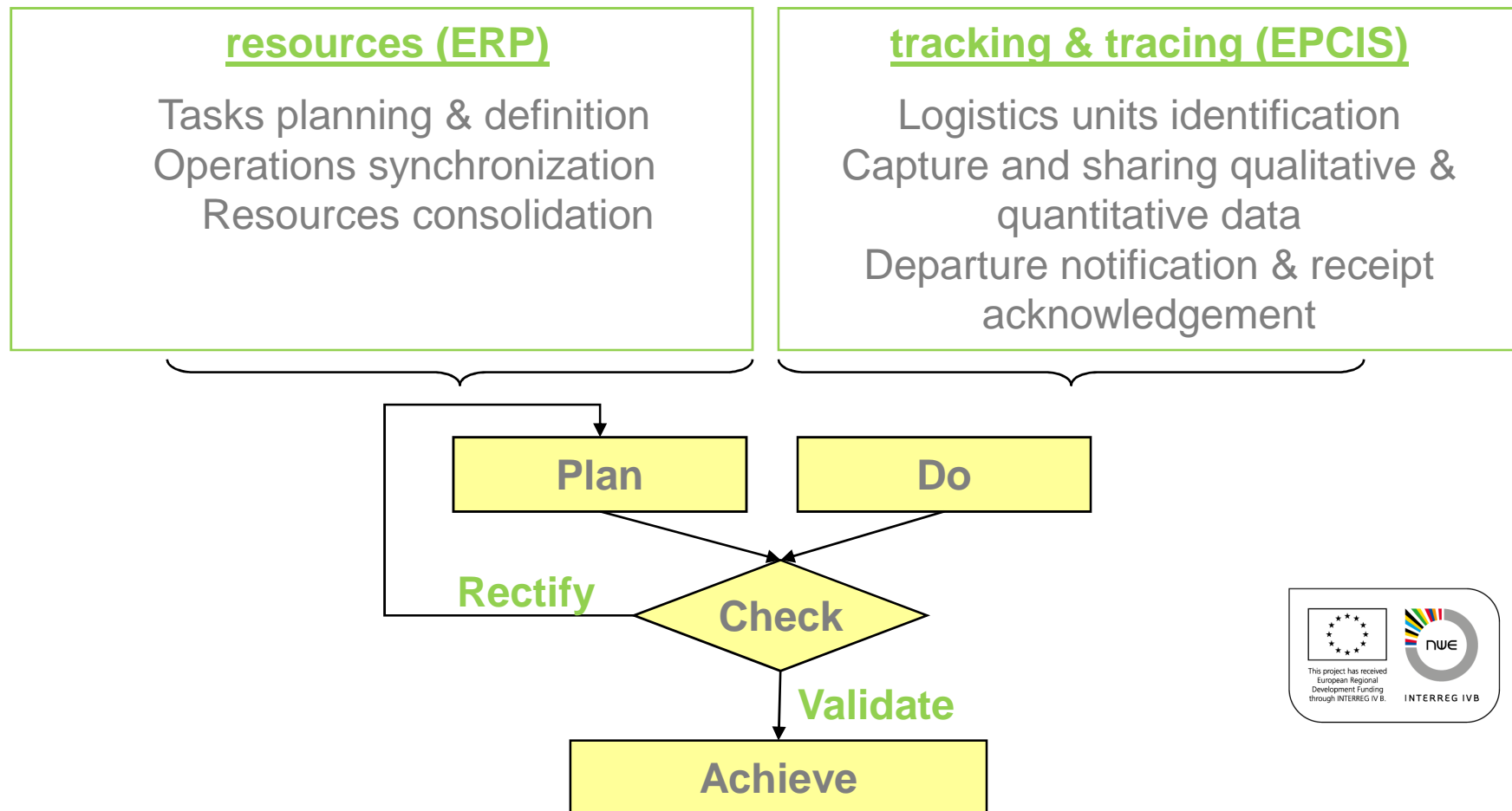


This visibility is based on 2 cornerstones :

- Identify logistics units :
 - ⇒ create a link between an identifier and an item, a parcel, a pallet, a container,
 - ⇒ then generate an information flow, linked to physical flow,
- Capture and share unified data :
 - ⇒ thanks to standards shared by all supply chain stakeholders,
 - ⇒ regardless of which technology is used (barcode 1D or 2D, RFID).



Visibility thanks to EPC-Network **facilitates synchronization** of planned flows data (*resources*) with physical flows data (*tracking & tracing*)





- **Flows and stocks management**
 - Shared visibility of flows and stocks (my order is in progress, my parcel is returned, my box is non-washed, ...)
 - Individual tracking of logistics units (successive last known positions of boxes & parcels)
- **Reducing the number of mistakes in the process (⇒ increase efficiency)**
 - Follow-up of discrepancies between planned flows (ERP) and physical flows (EPCIS)
 - Upstream and downstream traceability (finding out source of contamination, localization of logistics units)
- **Proof of delivery to end-user**
 - More secure last mile delivery
 - Better management of undistributed or refused parcels
- **Management of RTI flows, stocks & maintenance**
 - RTI visibility : speed rotations, inactive stocks, ...
 - Facilitating flows of shared reusable assets





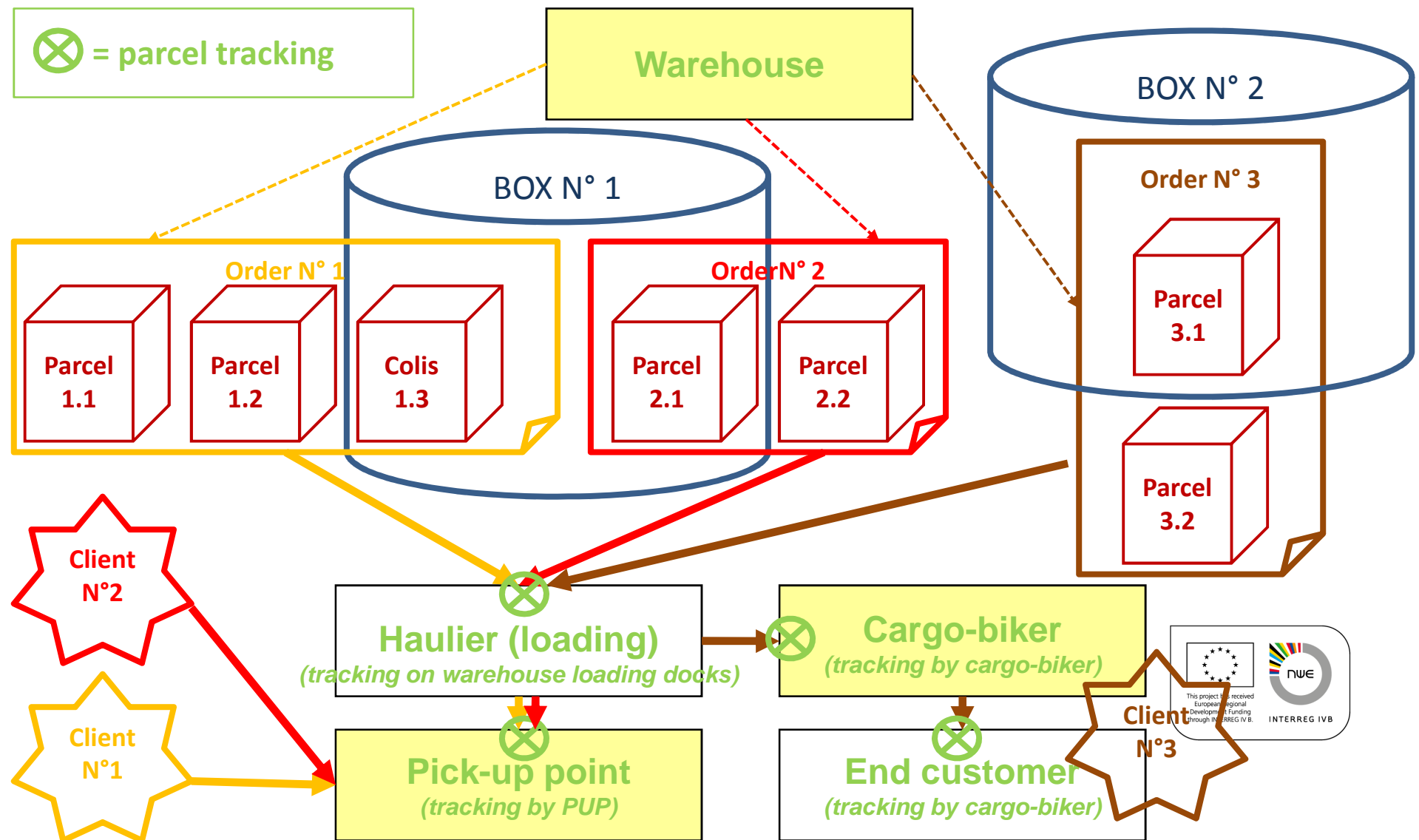
Use Case N° 1 : e-Commerce orders follow-up





EcoLogistics

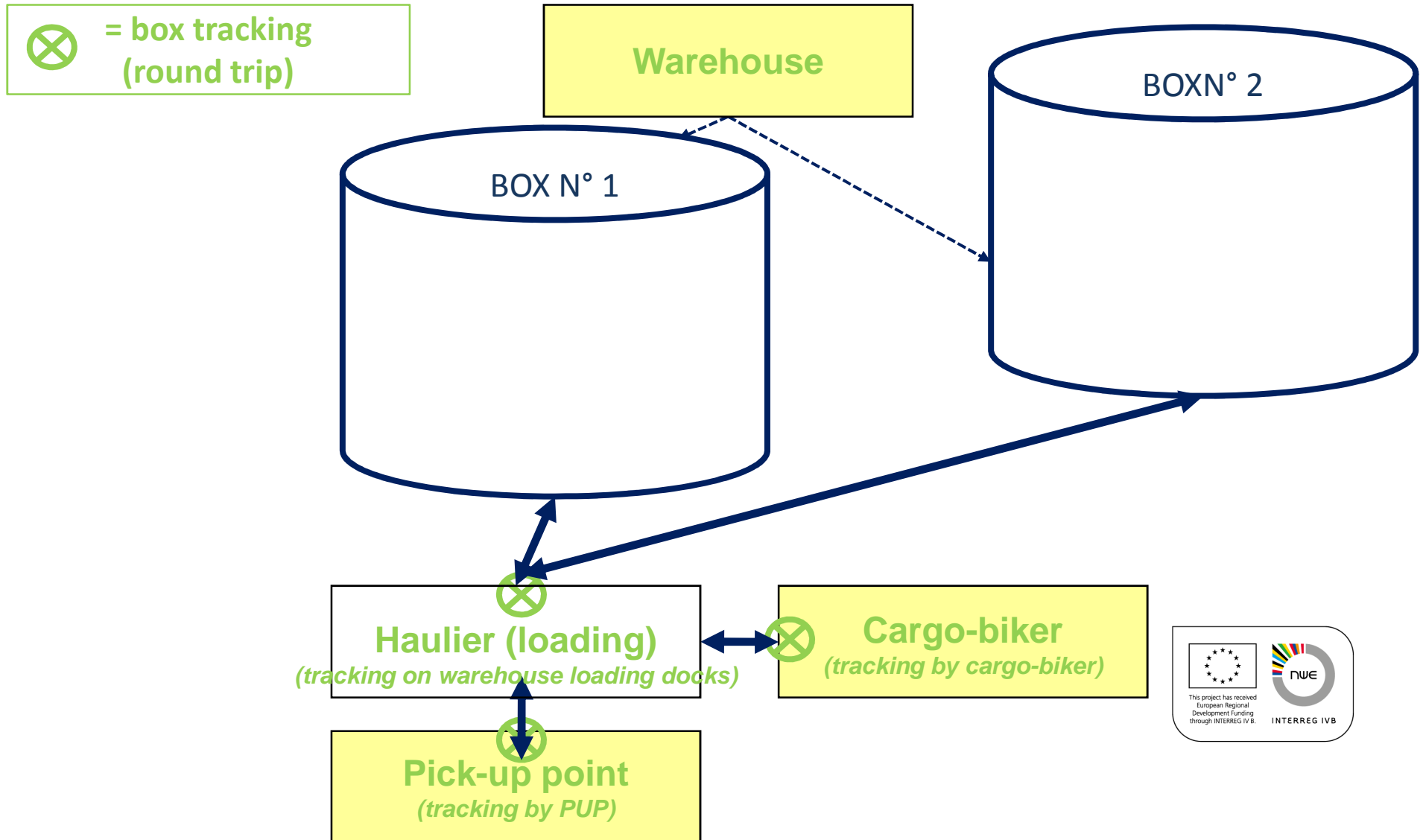
Use Case N° 1 : Workflow





Use Case N° 2 : Boxes follow-up







- **Collecting & sharing tracking events** ⇒ **Recording links between :**
 - An unique serial number allocated to each logistic unit (Who ?)
 - An unique serial number allocated to each read point (Where ?)
 - A event time stamp (When ?)
- **Serial numbers data standards :**
 - SGLN for read point numbers & location numbers
 - SSCC for miscellaneous logistics units (parcels or pallets)
 - GRAI for RTI like isotherm boxes
 - SGTIN for homogeneous logistic unit *(just for the record : it does not occurs in this scenario)*
 - For further information about EPC data standards:
http://www.ecologistics-project.eu/sites/default/files/technical/TDS_1_8_Standard_20140203.pdf
- **Main data registered in an “object event” :**
 - Object serial number
 - Read point number
 - Location number (where the logistic unit was when reading)
 - Business step (like arriving, loading, washing, ...)
 - Disposition (new status after reading, like available, returned, ...)
 - For further information about EPCIS standard :
http://www.ecologistics-project.eu/sites/default/files/technical/epcis_1_1-standard-20140520.pdf



Example of identification labels

- With GRAI ⇨

urn:epc:id:grai:0614141.12345.5678



(8003)006141411234525678

- With SSCC ⇨

urn:epc:id:sscc:0614141.1234567890



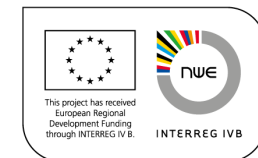
(00)106141412345678908

- With SGTIN ⇨

urn:epc:id:sgtin:0614141.812345.6789



(01)80614141123458(21)6789



•For further information about GS1 identification standards:

http://www.ecologistics-project.eu/sites/default/files/technical/GS1_General_Specifications.pdf



- With GRAI ⇨

```
Updating Odoo database with new events...
-- Object events--

Import new EPCIS event
Action:                ADD
Read point:            urn:epc:id:sgln:302702.018501.HDreceiving8
Biz Location:          urn:epc:id:sgln:302702.018501.HDSERVICEPROVIDER501
Business step:        urn:fosstrak:demo:bizstep:fmcg:arriving
Disposition:          urn:epcglobal:fmcg:disp:in_progress
Event time:           2015-09-24 15:31:45
Involved object(s):   urn:epc:id:grai:0614141.12345.5678

urn:epc:id:grai:0614141.12345.5678
```

- With SSCC ⇨

```
Import new EPCIS event
Action:                ADD
Read point:            urn:epc:id:sgln:302702.018501.HDreceiving8
Biz Location:          urn:epc:id:sgln:302702.018501.HDSERVICEPROVIDER501
Business step:        urn:fosstrak:demo:bizstep:fmcg:arriving
Disposition:          urn:epcglobal:fmcg:disp:in_progress
Event time:           2015-09-24 15:31:49
Involved object(s):   urn:epc:id:sscc:0614141.1234567890

urn:epc:id:sscc:0614141.1234567890
```

- With SGTIN ⇨


```
Import new EPCIS event
Action:                ADD
Read point:            urn:epc:id:sgln:302702.018501.HDreceiving8
Biz Location:          urn:epc:id:sgln:302702.018501.HDSERVICEPROVIDER501
Business step:        urn:fosstrak:demo:bizstep:fmcg:arriving
Disposition:          urn:epcglobal:fmcg:disp:in_progress
Event time:           2015-09-24 15:31:52
Involved object(s):   urn:epc:id:sgtin:0614141.812345.6789

urn:epc:id:sgtin:0614141.812345.6789
```

```
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EPCIS events sucessfully imported in Odoo
```



View of an object event in Odoo : GRAI basic tracking



Databases

- Object events
- Object events - EPC codes
- EPC codes

Functionality

- Parcels
- Reusable containers
 - Basic tracking**
 - Advanced tracking
- Statistics
 - Unmoved containers
 - Processing

Reusable containers' basic tracking

Product:

urn:epc:id:grai:0614141.12345.5678

Depuis

day: month: year:
1 jan 2012

Vers

day: month: year:
24 sep 2015

Submit data

Date	Read point	Bussiness location	Business step	Disposition
2015-09-24 15:31:45	HDreceiving8	HDSERVICEPROVIDER501	arriving	in_progress



View of an object event in Odoo : SSCC basic tracking



Databases

- Object events
- Object events - EPC codes
- EPC codes

Functionality

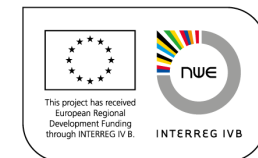
- ▼ Parcels
 - Basic tracking
 - Advanced tracking
- ▶ Reusable containers

Parcels' basic tracking

Product:

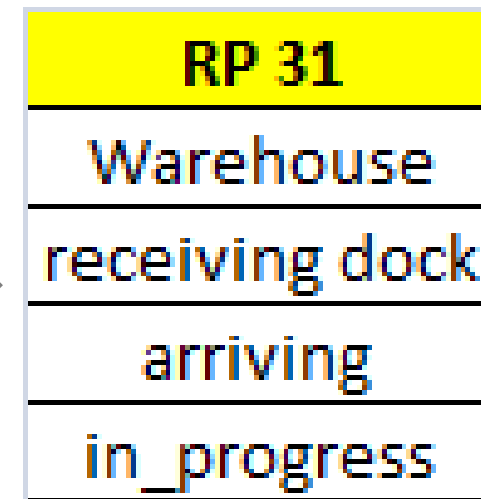
urn:epc:id:sscc:0614141.1234567890

Date	Read point	Bussiness location	Business step	Disposition
2015-09-24 15:31:49	HDreceiving8	HDSERVICEPROVIDER501	arriving	in_progress

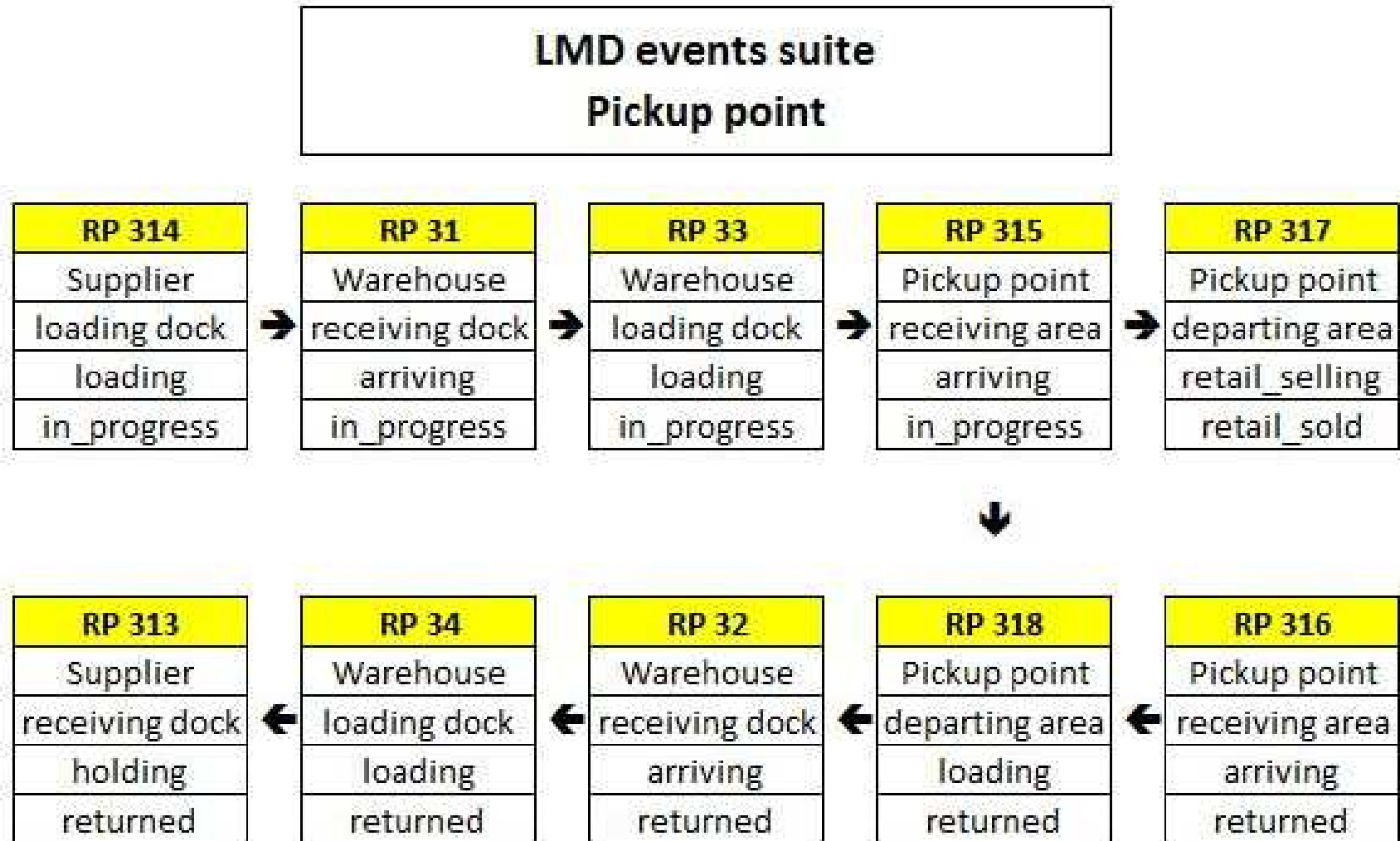


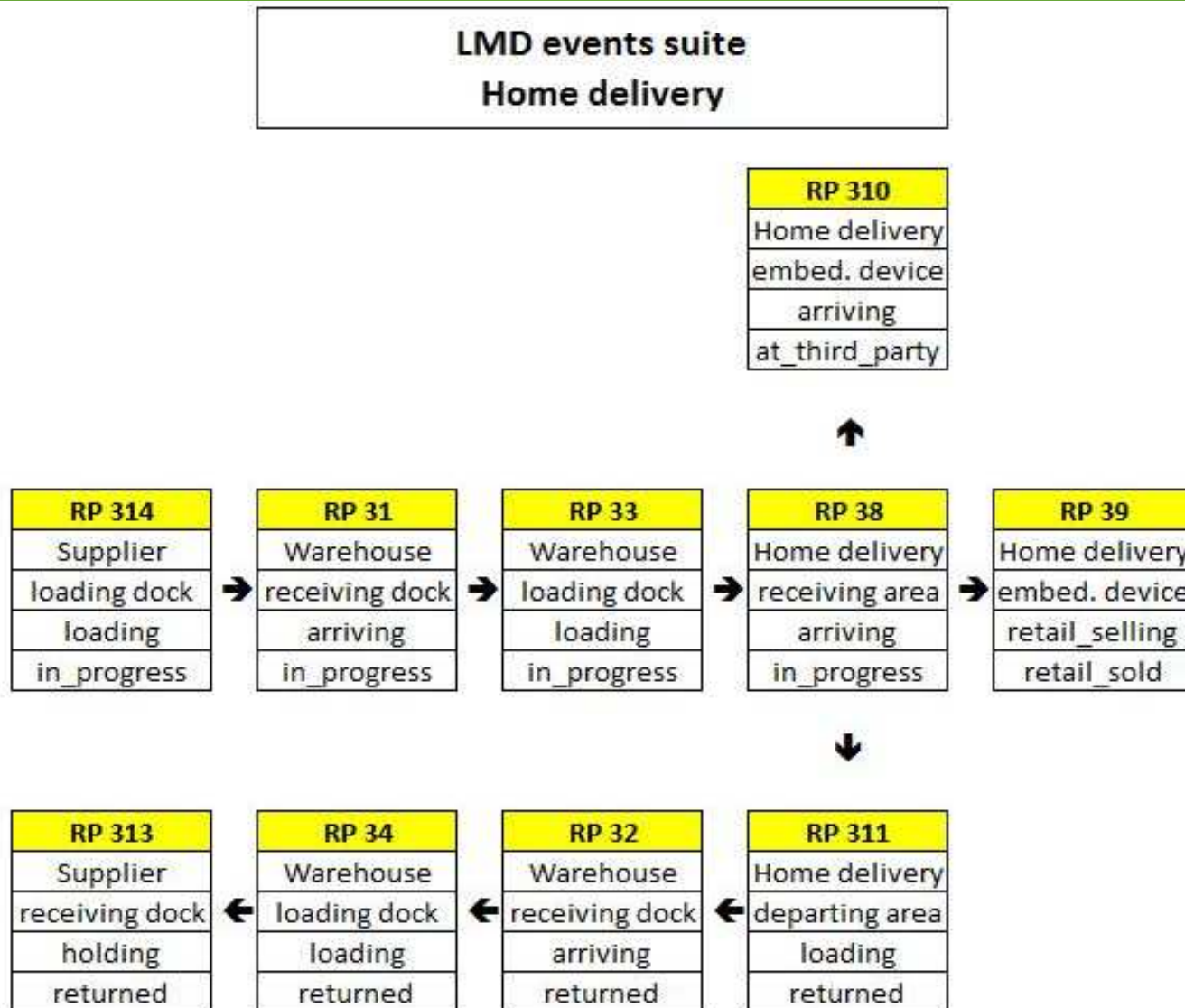
Example of read point configuration

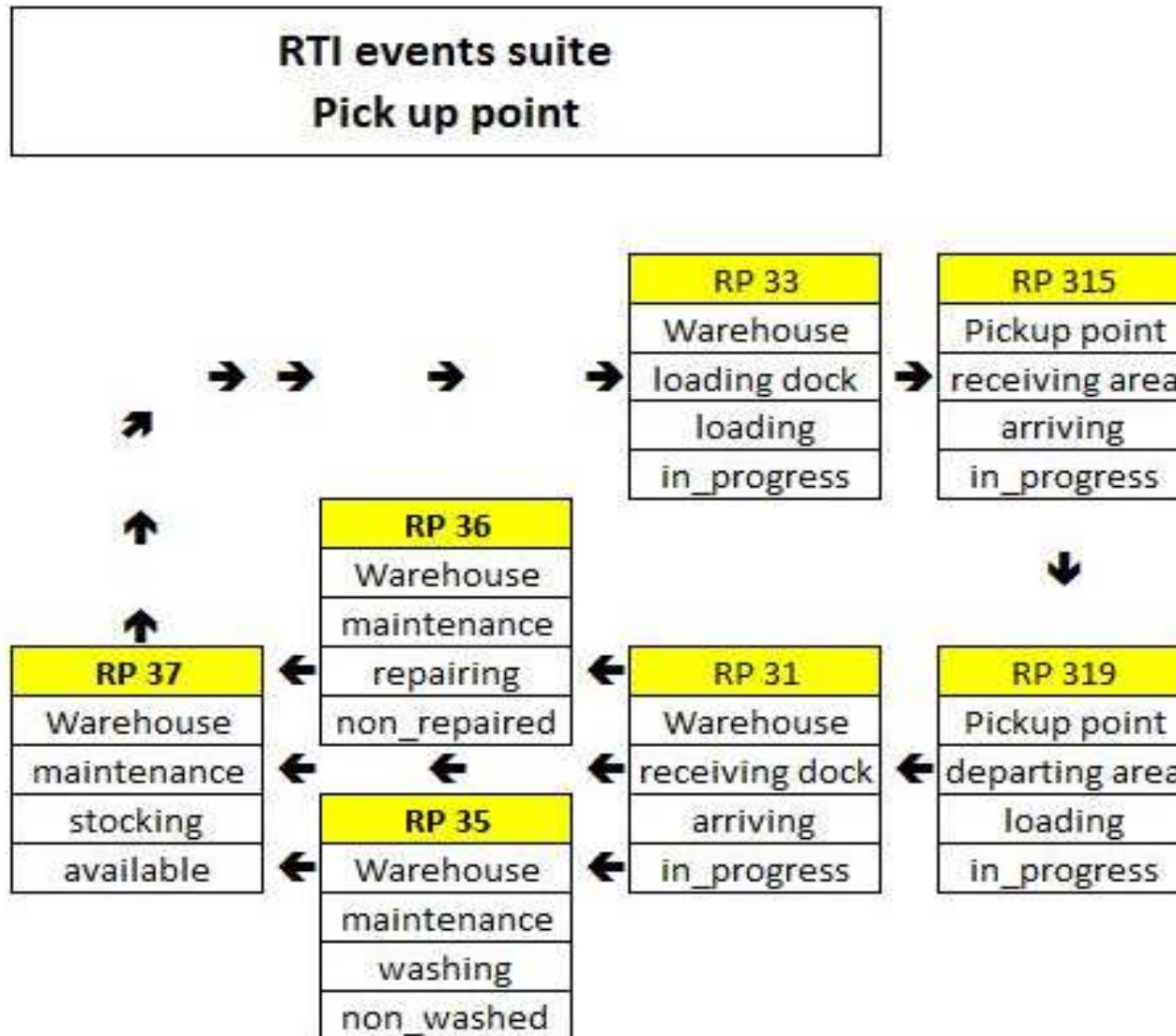
Description of read point n°31	
Business Location name	WAREHOUSE
Business location ID	urn:epc:id:sgln:302702.018201.WAREHOUSE201
Name of read location	WH receiving docks
Read Point ID	urn:epc:id:sgln:302702.018201.WHreceiving1
Action	Observe
bizStep	arriving
Disposition	in_progress

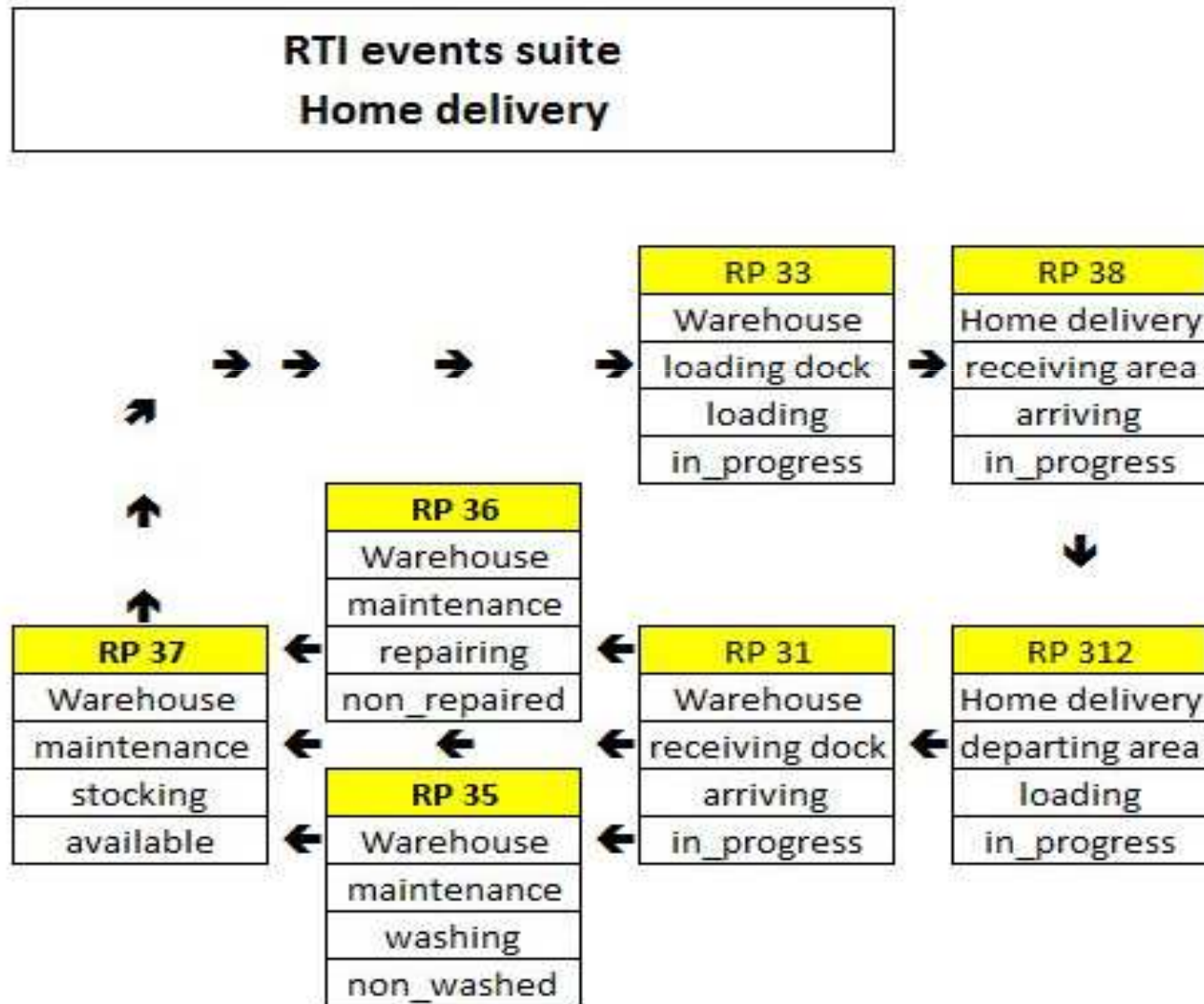


- For further information about EPCIS standard :
http://www.ecologistics-project.eu/sites/default/files/technical/epcis_1_1-standard-20140520.pdf









**RTI events suite
(Convenience store)**

