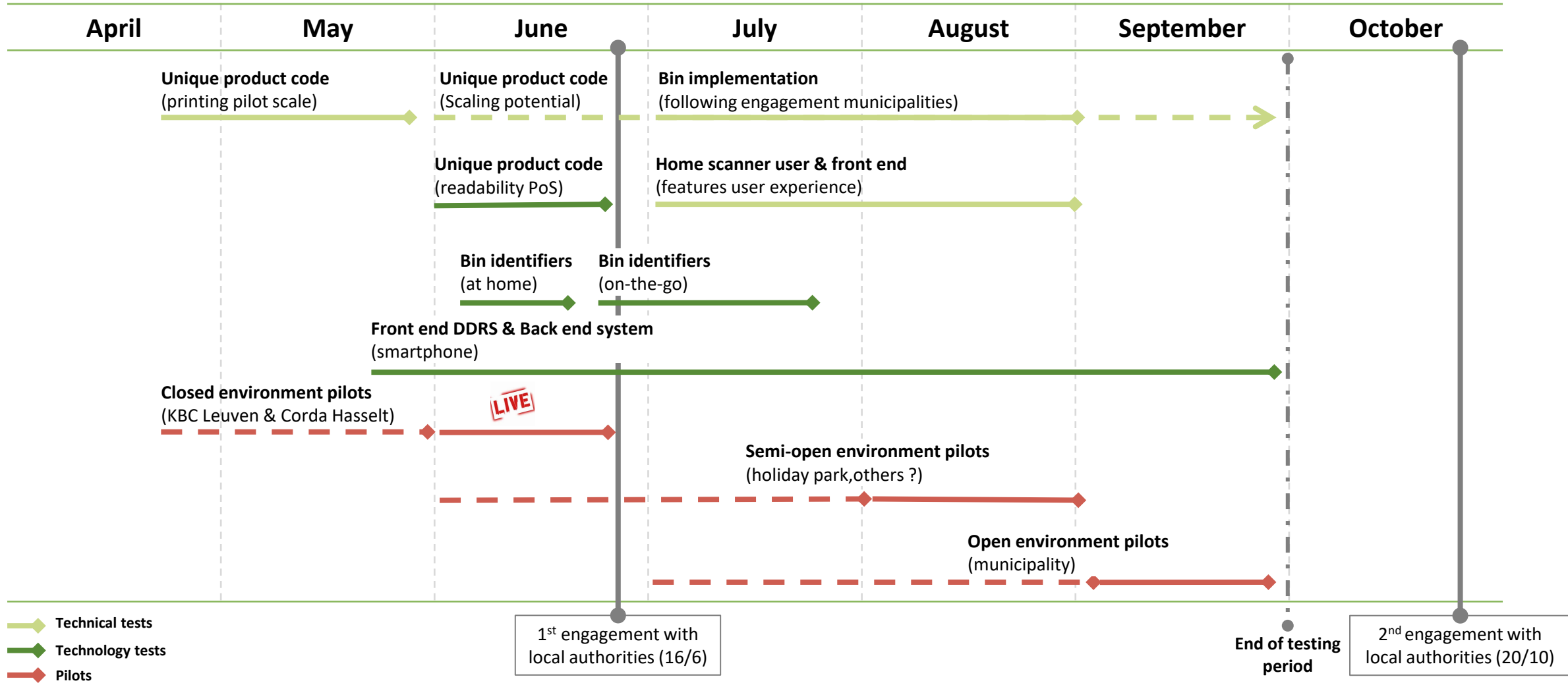


Stuurgroep DDRS

31.05.2023

Update pilots phase 1 (closed environment)

Update – We will test front and back end during the closed environment pilot and test unique product code in parallel



Litterbits

LIVE

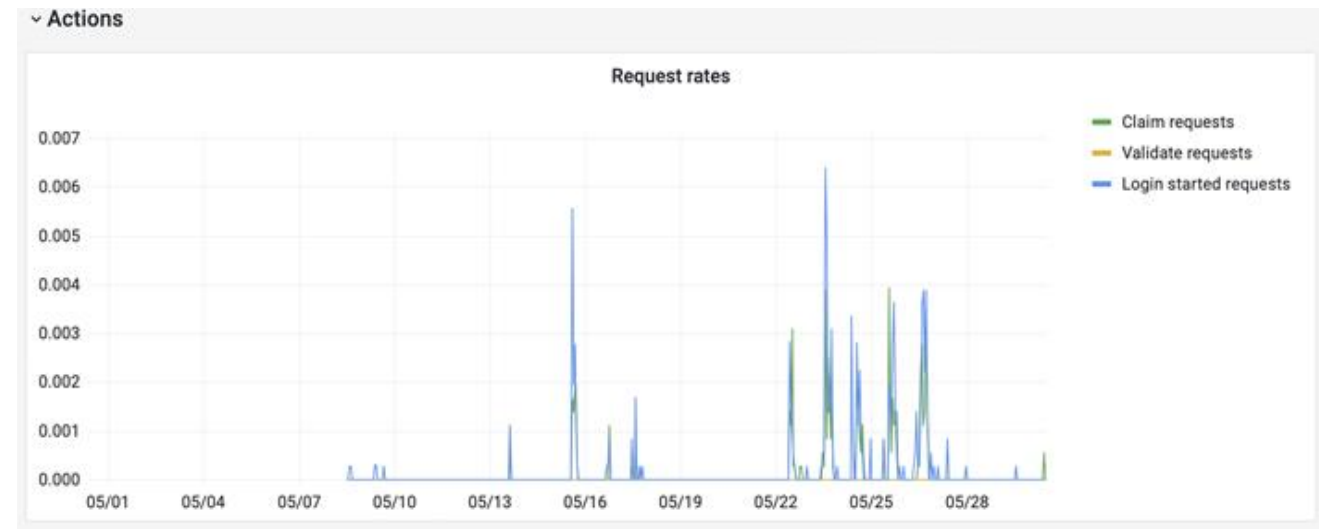


Litterbits

LIVE

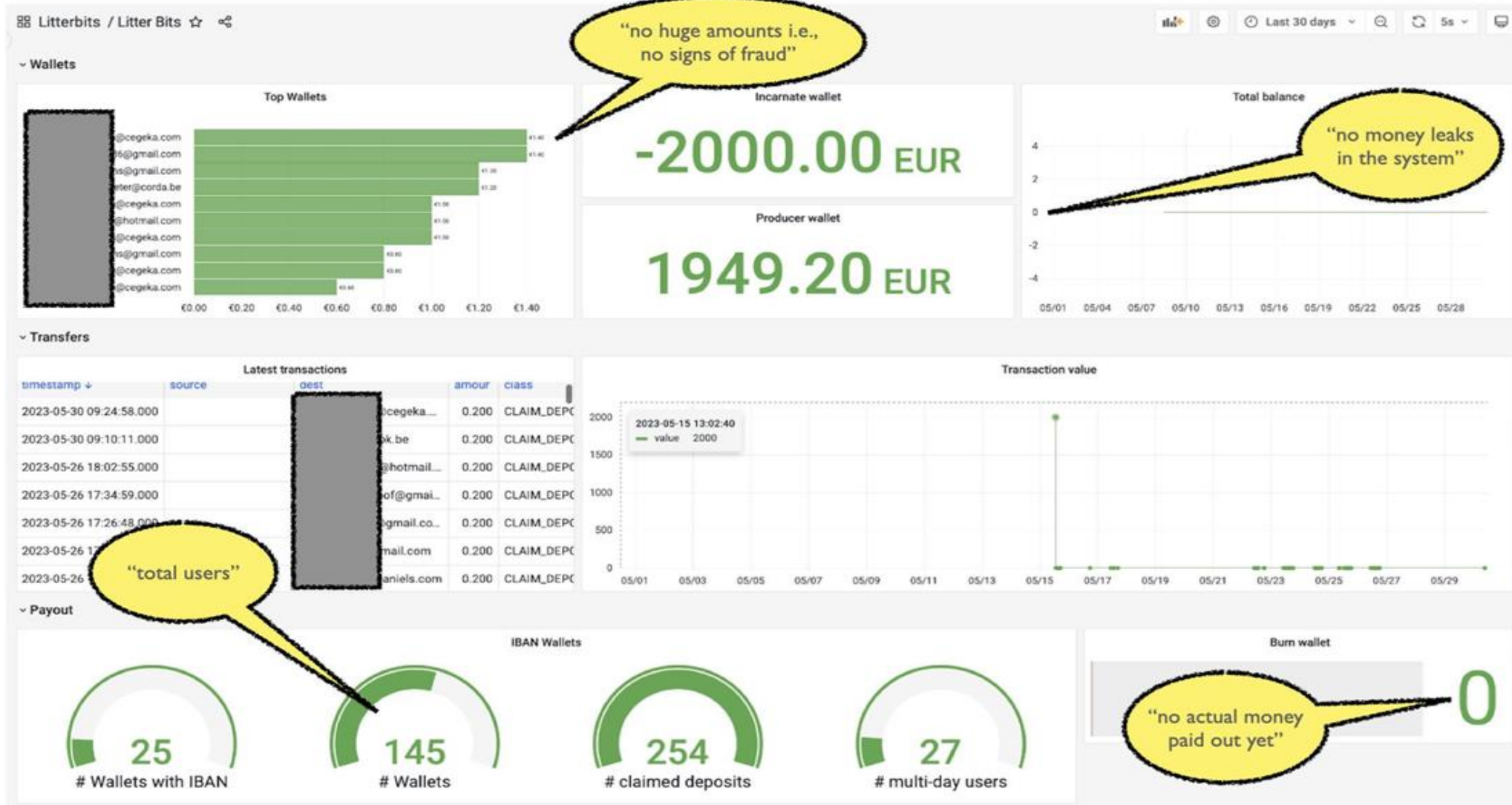
Lessons learned after 1 week operation...

- **Go-live Litterbits at Corda Campus on Tue 23/5 went according to plan:**
 - Exhaustive testing in week 15/5 and final go was given on 22/5
 - Corda Cuisine 6-week stock equipped with Litterbits codes, 15 designated bins (10 inside, 5 outside)
- **No backend errors logged so far, no other significant tech problems**
- **Feedback collection in-app and via help@litterbits.be**
 - 5 email help conversations, focused on UI & minor tech issues (mostly indicated by tech-savvy community @Corda)
- **Observations: overall, usage is in line with expectations: the process is just starting up**
 - People do not always see dedicated recycle bins or posters (non-Cegeka staff – 2500p on Corda)
 - Even when they see it, people do not read the posters ⇒ less words, more graphics needed
 - F2F interviews (ad hoc)
 - Many do recall the email that was sent out
 - Positive reactions to the ecological dimension and willingness to participate
- **Actions this week :**
 - Rearrange the recycle bins, optimize visibility
 - Tweak messaging & communication
 - Design the improvements for next week rollout



Litterbits

Week 1 dashboard



Unbox (sinds 30/05)

LIVE



10:26

4G 100

Wallet

20

Depositcoins

Redeemable for €0.2

Redeem Now

Deposit Coins Earned

Deposit Coins Redeemed

Scan Approved
10:25, 30-05-2023

+20 Deposit Coins

Evaluation pilots phase 1 (closed environment)

Final evaluation criteria

Weekly collected (to be sent each Monday before 12 AM to DDRS PMO at Fost Plus)

| Parameters : | Characteristics & KPIs |
|-----------------------------------|---|
| Effectiveness (collection) | <ul style="list-style-type: none">•% returned beverage packaging against sold beverage packaging during pilot (conversion rate) |
| Back-end solutions | <ul style="list-style-type: none">•Overall Back-end and API performance•% bad transactions in general (include root-causes)•Uptime platform (incl root-cause downtimes) |
| User-experience | <ul style="list-style-type: none">•User-experience survey (Online-score after the pilot) |
| Fraud prevention | <ul style="list-style-type: none">•Fraud prevention not a focus at this stage•Incident listing |
| GDPR compliance | <ul style="list-style-type: none">• Listing GDPR related user remarks/questions |
| Operational applicability | <ul style="list-style-type: none">•Data management (back-end mock up);•Use of unique identifiers (readability %, others ?)•Penetration test report (final pilot platform) |
| Trash counts (on samples) | <ul style="list-style-type: none">• How many cans and bottles in PMD• How many cans and bottles in other trash |

Final evaluation criteria (nxt)

Weekly collected (to be sent each Monday before 12 AM to DDRS PMO at Fost Plus)

A. Overall effectiveness of the collection process:

- Conversion rate (%) = % returned beverage packaging against sold beverage packaging during pilot*
- Redemption rate (%) = % of redeemed deposit (or intermediate status of “voucher” value)*

B. Back-end Solutions :

- A. Uptime platform/application (incl root-cause of downtimes)
- B. Number of users (new / existing / frequent users)
- C. Number of SKUs consumed/collected/redeemed
- D. Version updates if any (what ? When ? Functionalities ?)
- E. Overall Back-end and API performance
- F. % bad transactions in general (include root-causes per incident)

Final evaluation criteria (nxt)

Weekly collected (to be sent each Monday before 12 AM to DDRS PMO at Fost Plus)

c. **User-experience (end the end of the pilot):**

- See part 2

d. **Fraude prevention:**

- A. Fraude incidents/reports (per case)
- B. (Digital) vandalisme (platform, BINs, SKUs, etc)
- C. Other abusive usage

Final evaluation criteria (nxt)

Weekly collected (to be sent each Monday before 12 AM to DDRS PMO at Fost Plus)

E. **GDPR compliance:**

- Issues & Concerns inventory
- Questions from users

F. **Operational applicability (back and front end)**

- Individual reading issues codes (incl root-cause) for bins and SKUs
- A. Number of users (new / existing / frequent users)
- B. Version updates if any (what ? When ? Functionalities ?)
- C. API performance (if any)
- D. % bad transactions in general (include root-causes per incident)
- Residue measurements (in bins) – On sample base (weekly) - TBC

User survey format – draft

How user friendly do you rate the DDRS application used ?

- Rate from 1 to 10 (10 is best score)
- Strong points ?
- Weak points ?
- Suggestions ?

What do you think of the overall user experience of this pilot setup?

- Overall value perception (1 to 10, and 10 is best score)
- Your motivation and ability to adopt (1 to 10, and 10 is best score)
- The used principles to increase onboarding (1 to 10, and 10 is best score)
- Improvement points ? Please specify.

User survey format – draft (nxt)

What are the preferred features for you by importance ?

- Onboarding via App / Webportal
- Scanning process can/bottle
- Redeeming process
- Disposal process at bins

What are the preferred features for you by satisfaction ?

- Onboarding via App / Webportal
- Scanning process can/bottle
- Redeeming process
- Disposal process at bins

User survey format – draft (nxt)

What kind of resistance did you experience during the DDRS process?

- Usage resistance (difficult, not comprehensive enough)
- Risk resistance (risky, no trust)
- Value resistance (why should I ?)
- Social ?
- Others ? Please specify

If there would be deposit on all bottles and cans would you be prepared to use this system in your day to day live?

- Probably yes
- Probably no

User survey format – draft (nxt)

Other points to modify / improve ?

- Please specify.

Other points to modify / improve in the DDRS process flow ?

- Please specify.

Test protocol phase 2 pilots (semi open environment)

1. Context

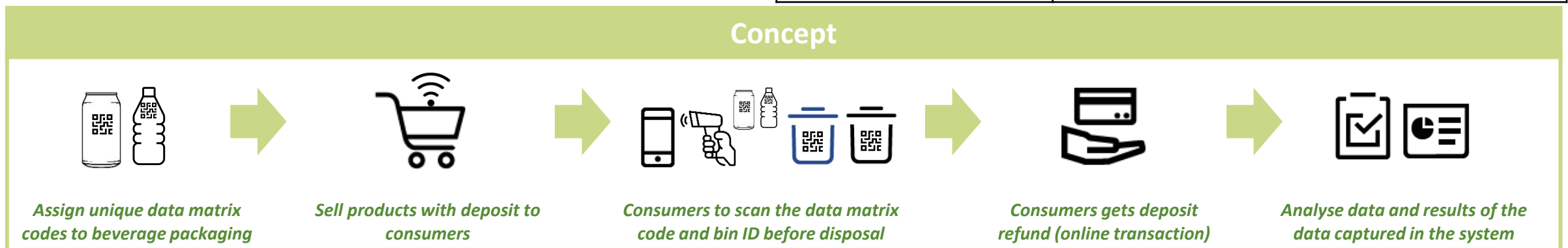
Half-open deposit pilot(s)

Description

- **Proposed timing & duration:** min. 2 weeks; Q3 '23
- **Sample:** 50 000 units to be sold with unique code (on pack and stickering) & 20 cents deposit
- **Environment:** Half-open (combination of private & public infrastructure) with scattered POS, “public/outside” waste bins combined with blue bags usage incl litter counts
- **DDRS elements included:**
 - Consumer App & Home scanner usage
 - Unique product code
 - (Public) Bin identifiers & Blue bag
 - Segmented approaches for target audience(s) if possible/ necessary

Please note: By preference multiple scenarios can be organised at different half-open premises to compare proof-of-concepts against each other based on the criteria and for different target audiences. For example, similar set-up with only home scanners at different locations, different deposit value, etc

| Criteria | Proposed operationalization |
|--------------------------------------|---|
| Effectiveness (collection) | % returned beverage packaging against sold beverage packaging during pilot |
| Accessibility | User-experience survey after pilot (various elements) |
| Fraud prevention | Included as part of pilot set-up (to be defined) |
| Compliance with privacy rules | Part of preparation; documentation to be provided to participants |
| Operational applicability | Data management (back-end mock up); Use of bin identifiers; Comparison bins vs blue bag |
| Trash counts | Number of (scanned/ not scanned) cans and bottles in PMD, other trash |
| Litter counts | # pre, during, end “loopstroken – method” |



2. Pilot description : overview

| | Fost Plus | Applicant |
|---|-----------|-----------|
| 1) Describe the focus / subject / objective & content of the pilot / test: | X | X |
| <i>Example: "Measure the acceptance rate of using the deposit scheme process / identifying the level of difficulties using the application"</i> | | |
| 2) Describe the question(s) this pilot should answer: | X | X |
| <i>Example: "The closed environment deposit pilot aims to test the impact on the effectiveness of collection and the user experience of the application."</i> | | |
| 3) Describe the question(s) this pilot does not aim to answer: | X | X |
| <i>Example: "The closed environment deposit pilot does not aim to test the POS activation or the deposit refund."</i> | | |
| 4) Describe the platform that will be used for the application, the data management system and the security | | X |
| 5) Describe the critical success factors for the pilot: | X | X |
| <i>Example: "Effectiveness of the collection / user experience of the application"</i> | | |
| 6) First identification / proposal how performance will be measured (KPI & the process of measurement): | X | X |
| <i>Example: "To assess the success of the pilot, we focus on 1) the % returned beverage packaging against sold beverage packaging during pilot and 2) the user satisfaction score after the pilot."</i> | | |
| 7) Communication strategy & messages | X | X |
| <i>Example: "We want to convey the story of a positive user experience to all audiences via specific channels."</i> | | |

2. Pilot description

Describe the focus / subject / objective & content of the pilot / test (1/2)

- *Define the objective of the pilot*
- *Describe and visualise the focus of the pilot (area of the DDRS flow)*

Concept



Assign unique data matrix codes to beverage packaging



Sell products with deposit to consumers



Consumers to scan the data matrix code and bin ID before disposal



Consumers gets deposit refund (online transaction)



Analyse data and results of the data captured in the system

- *Describe the DDRS elements included*
 - *Example:*
 - *Consumer App: Describe the minimum requirements*
 - *Unique product code (serialization): Describe the set up e.g. sticker solution managed inside close environment*
 - *Bin identifiers: Describe the set up e.g. sticker solution managed inside close environment*

2. Pilot description

Describe the focus / subject / objective & content of the pilot / test (2/2)

| Set up | Description |
|---------------------------------------|---|
| Proposed timing & duration | <i>Describe the timing : Q3 2023 Describe the duration : 1 month</i> |
| Assets | <i>Which application(s) /technology will you use to set up the different steps of the pilot to run flow</i> |
| Sample size | <i>50,000 number of units to be handled (labelled, sold)</i> |
| Test environment | <i>Pilot 2: half open environment</i> |
| Processes | <i>Describe how the users will be onboarded, level of instructions they should receive etc.</i> |
| Focus groups | <i>Depending on test environment</i> |
| Other | |

2. Pilot description

Describe the question(s) this pilot should answer & the questions the pilot does not aim to answer

The question(s) this pilot should answer:

"The closed environment deposit pilot aims to test the user understanding of the system within a closed environment."

"The closed environment deposit pilot aims to test the proposed customer solution front end."

"The closed environment deposit pilot aims to measure the collection rate."

"The closed environment deposit pilot aims to evaluate the different used back end solutions"

"public bin (on the go) test is in scope"

Effect on litter

The question(s) this pilot will not answer:

"automated printing solution (as such) is not in scope"

2. Pilot description

Describe the platform and data management system

| User platform | Description |
|---|--|
| Which application(s) will be used? | <i>Describe the application (Import Interfaces, Data Transformation (ETL), Process Automation, Monitoring and Data Historization and External Access/API) and the Data Architecture (Infrastructure, scaling, database)</i> |
| Which data management system will be used? | <i>Describe the data management system (Carriers, Model & Flows : Accuracy, Validity, Uniqueness, Completeness, Consistency, Timeliness, Integrity, and Conformity)</i> |
| How will security of personal information be guaranteed? | <i>Describe the security measures of the application and data management system</i> |

2. Pilot description

Critical success factors (1/2)

First identification / proposal how performance will be measured (KPI & the process of measurement):

| Criterion | Key Performance Indicator | Threshold(s) |
|---|--|--|
| <i>Describe criteria which define success</i> | <i>Describe the measurement indicator and system</i> | <i>Describe the threshold for success</i> |
| <i>Effectiveness of collection</i> | <ul style="list-style-type: none"> Indicator: % returned beverage packaging against sold beverage packaging during pilot Measurement: count of returned beverage packaging | <ul style="list-style-type: none"> Example: > 97% is positive result, < 90% is a bad result |
| <i>User experience of the application</i> | <ul style="list-style-type: none"> User rating in an experience survey after the pilot Measurement: online survey score | <ul style="list-style-type: none"> Example: > 9/10 is positive result, > 8/10 is satisfactory, < 7/10 is bad results |
| <i>Back-end solutions</i> | <ul style="list-style-type: none"> Measurement: 500 requests fired in 1 second Measurement: number of errors in log file due to bad scans or bad messages compared to all actions in log file Measurement: uptime of the solution | <ul style="list-style-type: none"> Response < 500ms is positive result. Response > 500ms but < 1s is satisfactory. Number successful messages > 99,99% is positive result. Uptime of 99,99 is positive result. Uptime of 99,95 is satisfactory. |
| <i>Proposed security on solutions</i> | <ul style="list-style-type: none"> Measurement: produce a penetration test report | <ul style="list-style-type: none"> A penetration test report that discloses 0 critical findings is a positive result. |

2. Pilot description

Critical success factors (2/2)

Experience survey after the pilot:

| Input DDRS team |
|--|
| <i>How user friendly do you rate the application?</i> |
| <i>What do you think of the look and feel of the proposed application?</i> |
| <i>Which points for improvement do you see?</i> |
| <i>If you would use the DDRS system day to day, what is the minimum amount (€) that would trigger the usage?</i> |
| |
| |
| |

| Input applicant |
|-----------------|
| |
| |
| |
| |
| |
| |
| |

2. Pilot description

Communication strategy

- **Describe the “push” communication strategy for the pilot**
 - Describe key message we want to convey, to which audiences and via which channels
 - *Example: The main message we want to convey with a closed environment pilot is that DDRS leads to a higher collection rate and the users find the application user friendly. We foresee communication on the outcome of the pilot via the newspapers.*
 - *To be cleared / amended by the Layer communication & stakeholder management*
- **Describe the “pull” communication**
 - Identify the communication risks linked to the pilot and the likelihood
 - Define mitigating actions for each risk
 - Define the communication path for the involved parties (reaction on media coverage, questions from politics and interest groups)

2. Pilot description

Messages

| Message | Audience | Channel |
|---|---|---|
| Describe key messages we want to convey with our pilot: <i>Example: increase in % collected packaging, positive user experience, easy to use bin tags</i> | Describe the audiences we want to communicate to: <i>Example: citizens, politics, municipalities etc.</i> | Describe the channel: <i>Example: newsletter, social media campaign, opinion article newspaper etc.</i> |
| | | |
| | | |
| | | |
| | | |