Life3R

Circular economy ecosystem to Recover, Recycle and Re-use F-gases contributing to the depletion of greenhouse gases -LIFE 3R

Deliverable: Work Package: Buyer-Company R-market

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JANUARY 2021

Abstract

This deliverable focuses on the work package applied by **R-gas buyers to manage purchase activities** when using the R-market. It is noted that buyers are considered to be the different F-Gas distribution companies registered in the 3R ECOSYSTEM with a view to participating in the relevant bidding and trading procedures via 3R Marketplace platform. Specifically, the crucial point of this deliverable document is the story map of R-Gas buying processes implemented by a Distributor Co. admin.

Contents

1 Basic scenario

1.1 User Story Map

Any Distributor Co. administrator who is interested in buying recovered refrigerant (R-gas) via R-Market, should click the choice "R-Market - Buy R-gas" which is available as a link in the company Dashboard and is equivalent to the following message towards 3R ECOSYSTEM: "As a Distributor Co. Administrator I want to manage R-gas purchase activities". After that, he /she will be able to choose one of the following functionalities:

1st option → Transaction history.

2nd option → Market stock.

3rd option → Pending offers.

4th option → Accepted offers.
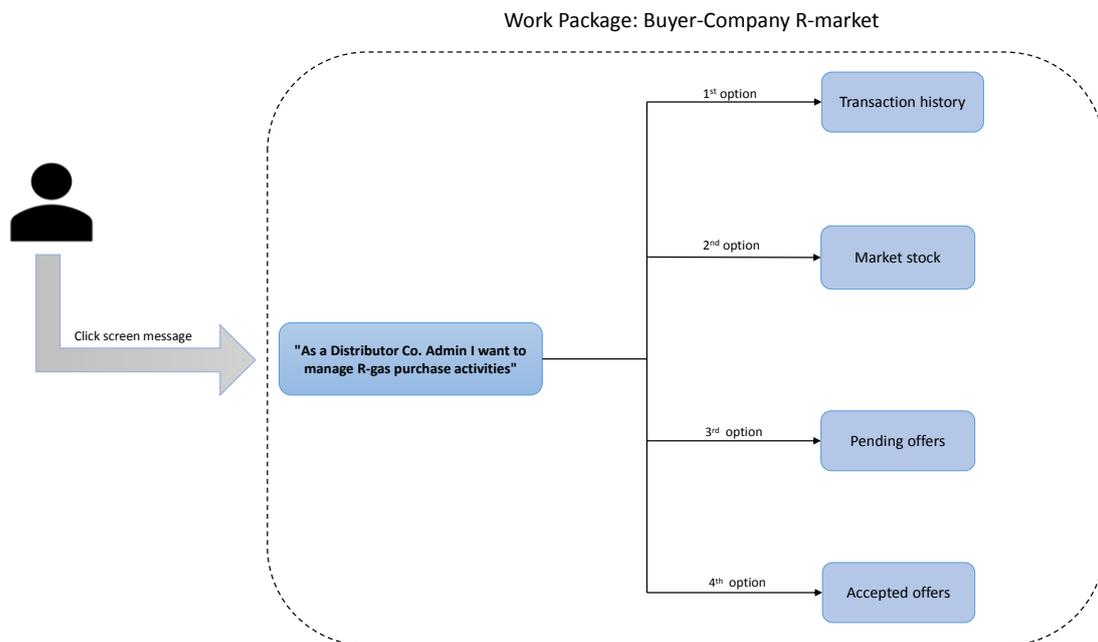
Work Package: Buyer-Company R-market

Figure 1: Overview of buyer-company R-market.

1.2 Platform operating principles

1.2.1 R-Market Header

After loading of the page, price range for the first item in the list (in our case for R134a) according to quality grade (A/B/C), is depicted in the upper right side of screen. The displayed information about price range changes depending on the item that has click-On state. Otherwise, if Distributor Co. admin clicks on R410a gas or any corresponding information in that items row then price range will be featured for R410a. In addition, hyperlink "View" is available for each item and is served as a Call-To-Action (CTA) asset (see Figure 2).

1.2.2 Filters and search query

Via filters and search function, the Distributor Co. administrator can select what items are displayed in the active tab. This means that when no filters and search queries are applied, all items as well as information related with them will be shown on the buyer's screen. Regarding filters, the options available is considered to be relevant to:

- type,
- location,
- quantity,
- presumed quality A/B/C,
- confirmed quality A/B/C/pending.

2 Analysis of different user stories

2.1 Transaction history

The Distributor Co. admin selects the first (1st) option from the four (4)options /functionalities available to manage R-Gas on stock. A template of user interaction and design for R-Market tab with "Transaction History" option enabled is depicted in **Figure 2**:
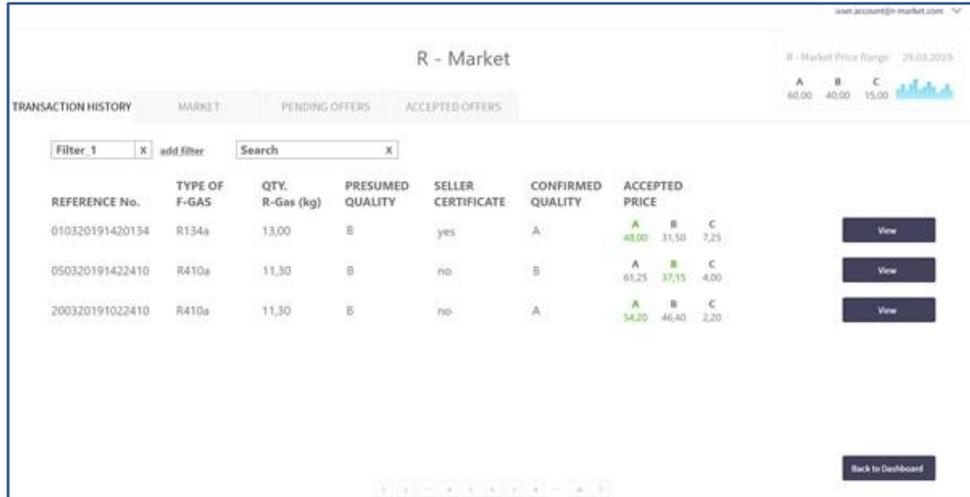
Figure 2: User interaction and design for "Transaction History" tab.

Basically, "Transaction History" tab displays all purchased stock containing information about offered prices per quality grades, determined quality grade and corresponding purchase price, too. Then, detail view for each item involves previously uploaded quality certificates via PDF hyperlinks as well as location info in two basic formats (Location format 1: Installer Co. full address, Location format 2: Customer Co. name + full address). **Figure 3** shows a typical output after clicking "View" option for the first item (R134a) of the list of Figure 1:
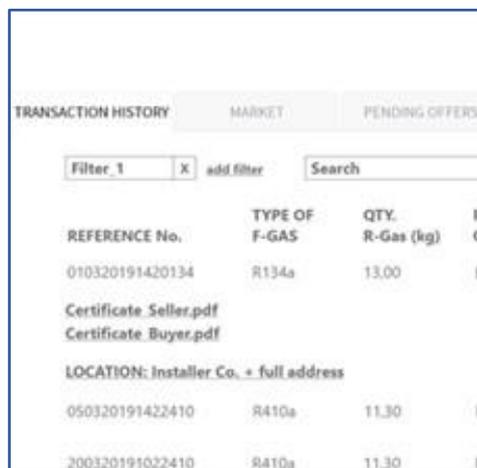

Figure 3: User interaction and design after clicking option "View" for one of the listing items included in "Transaction History" tab.

It worths mentioning that "Transaction History" tab corresponds to "Stock" tab (R-Market Sell Refrigerant - Ver. 2.0) which is assumed to be one of "R-Gas sell functionalities". Moreover, a dedicated CTA option will also be available at "Stock" tab so that seller can publish a new item on the market.

2.2 Market stock

The Distributor Co. admin selects the second (2nd) option from the 4 options / functionalities available to manage listing of items offered for buying on R-Market platform. Basically, "Market" tab represents stock available for purchase and for which offers can be made. In contrast, items for which offers have already been sent, they are not displayed at all. A template of user interaction and design for R-Market tab with "Market stock" option enabled is depicted in **Figure 4**:

Figure 4: User interaction and design for "Market" tab.

Moreover, by clicking on the CTA "View" of each corresponding item on sale, user (buyer) can have more information about quality certificate (if seller has uploaded it) as well as location of item for which an offer is going to be sent(**Figure 5**). The type of additional location details depends on the format of initial notes found in the "Location" column of Market tab (e.g., see Figures 4&5: Location 1: Installer Co. name, city → View → Installer Co. full address, Location 3: Installation site, city → View → Customer Co. name, Installation site full address etc.).
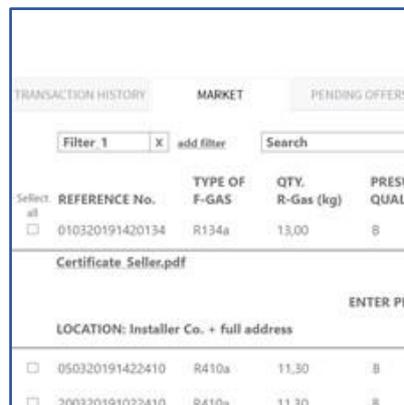

Figure 5: User interaction and design after clicking option "View" for one of the listing items included in "Market" tab.

It is the "View" CTA that also allows user to make offer per item. Hence, fields for entering price per quality grade as well as a "Publish offer" CTA are available. Via "Publish offer" CTA, an offer for the selected item is sent; this item will be then removed from "Market" tab and displayed in "Pending offers" tab. Each published offer is associated with a unique Reference No. for future traceability.

Meanwhile, an extra functionality to send bulk offers for several selected items is provided in Market tab. Nevertheless, the "Send bulk offers" CTA is only enabled if two or more items are selected. In different case (one or no item selected), it remains disabled and the only possible CTA for the distributor are "View" and "Back to Dashboard" along with some other options such as tab change and items deselection, respectively.

After selecting a series of items, user executes "Send bulk offers" CTA resulting in clearance of the list as only the selected items are displayed. Furthermore, fields for entering price per quality grade as well as a "Publish offers" CTA are becoming available (**Figure 6**)."Publish offers" CTA is like "Publish offer" CTA regarding the removal of selected items from "Market" tab and display of them in "Pending offers" tab. A relevant notification email is automatically sent to the Installer Co. Seller, too.
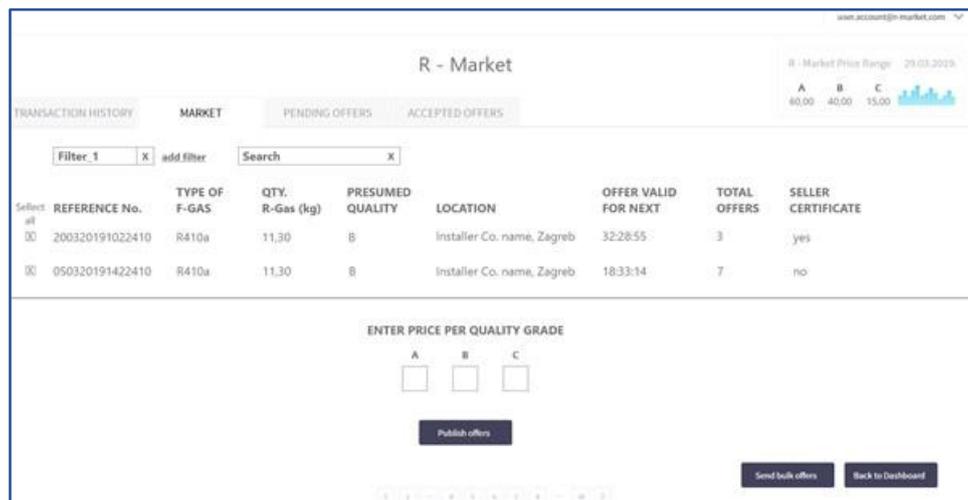

Figure 6: User interaction and design for "Market stock" tab after executing "Send bulk offers" CTA.

2.3 Pending offers

The Distributor Co. admin selects the third (3rd) option from the 4 options/ functionalities available to manage offers being sent to sellers. Basically, "Pending offers" tab displays all items for which a bid has been placed by user (buyer). A template of user interaction and design for R-Market tab with "Pending offers" option enabled is depicted in **Figure 7**:

Figure 7: User interaction and design for "Pending offers" tab.

The "View" CTA is still available for each corresponding item on sale, enabling a detail view of quality certificate (if seller has uploaded it) as well as location of item for which an offer has been sent (**Figure 8**). The type of additional location details depends on the format of initial notes found in the "Location" column of Pending offers tab (e.g., see Figures 7 &8: Location 1: Installer Co. name, city → View → Installer Co. full address, Location 3: Installation site, city → View → Customer Co. name, Installation site full address, etc.).
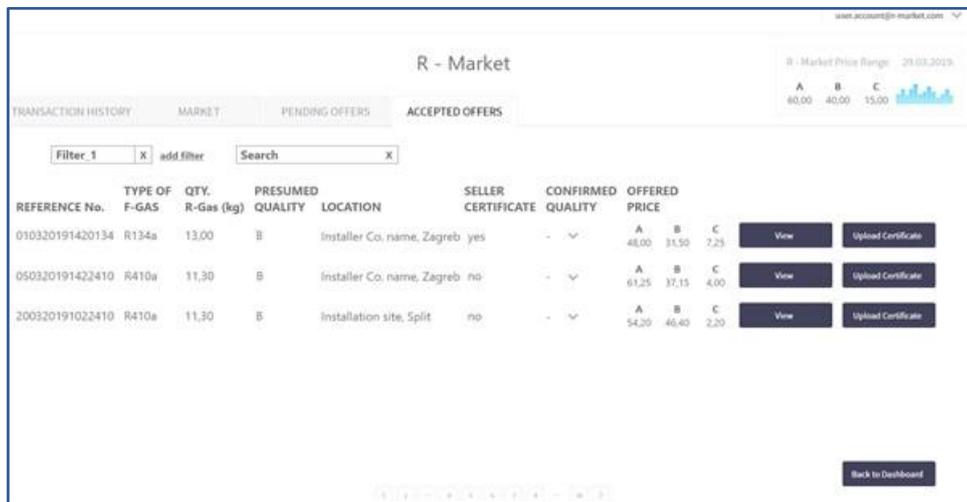

Figure 8: User interaction and design after clicking option "View" for one (R134a) of the listing items included in "Pending offers" tab.

2.4 Accepted offers

The Distributor Co. admin selects the fourth (4th) and last option from the 4 options / functionalities available to manage biddings that have been approved. Basically, "Accepted offers" tab contains all that items for which buyer's corresponding offer was accepted by

installer (seller).This means that the relevant entry from "Pending offers" listing is transferred to "Accepted offers" listing, too. In the meantime, each item continues to be associated with a unique Reference No. for future traceability. It is noted that buyer will also be notified via an email about seller's acceptance of the offer.

Moreover, "View" CTA is still available for each corresponding accepted item, opening a detail view about quality certificate (if seller has uploaded it) as well as location of item for which offer has been approved. Additionally, buyer should acquire quality certificate via executing "Upload certificate" CTA, which also opens a detail view as well as a file upload dialogue box. A template of user interaction and design for R-Market tab with "Accepted Offers" option enabled is depicted in **Figure 9**.

Figure 9: User interaction and design for "Accepted offers" tab.

After uploading quality certificate, buyer should fill in the "Confirmed quality" column via a drop-down menu. Each time, a dialogue box will follow so that buyer can confirm item quality grade (**Figure 10**). Depending on the confirmed quality grade, the corresponding offered price will be automatically highlighted.
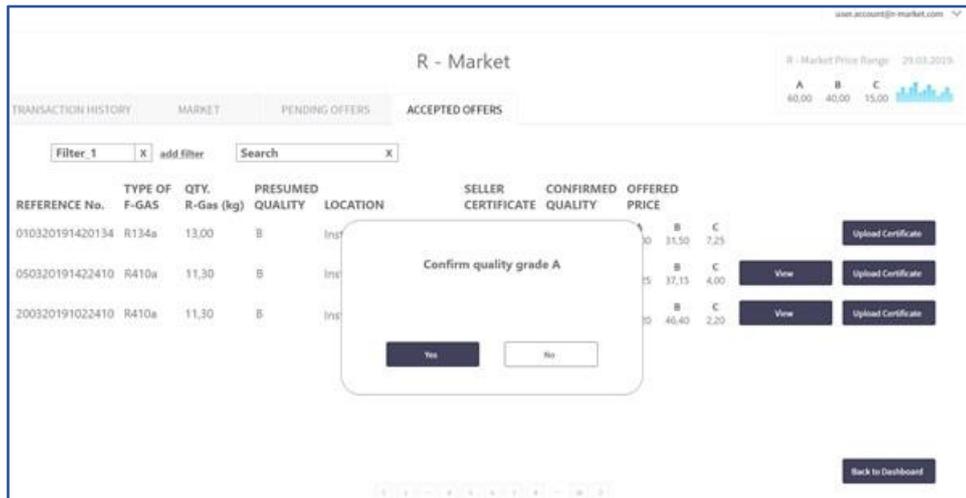
Figure 10: User interaction and design for "Confirmed quality" process (dialogue box).

User's last action contains execution of "Payment Gateway" CTA with the aim of opening a third-party payment service for an item. Nevertheless, "Payment gateway" CTA will remain disabled until processes for both uploading quality certificate and completing "Confirmed quality" status are finished (**Figure 11**).
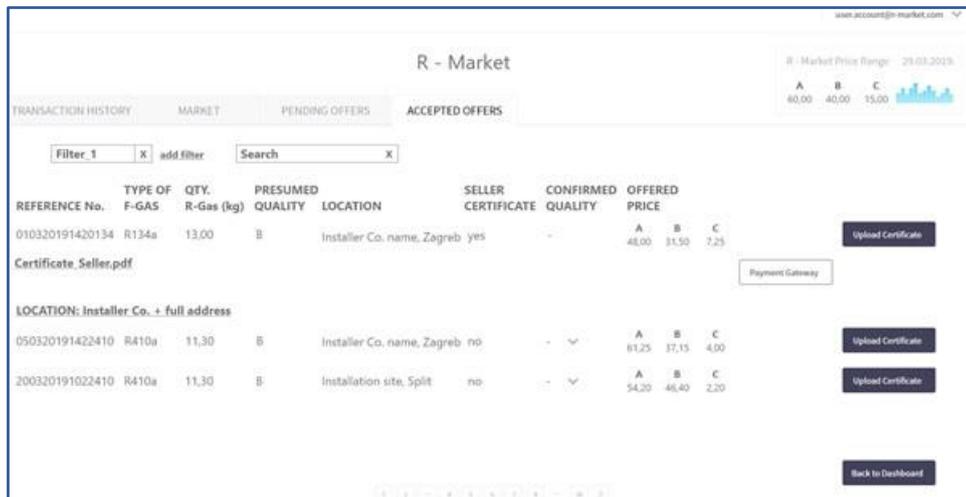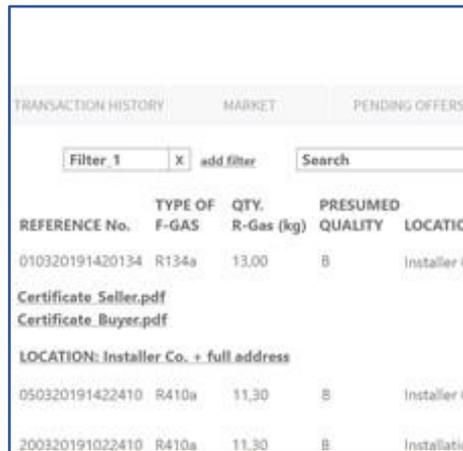

Figure 11: User interaction and design when "Payment Gateway" CTA for an accepted item is disabled (Certificate buyer and quality confirmation are required).

Then, **Figure 12** shows the output that "Upload Certificate" CTA must have so that the activation of "Payment Gateway" CTA to be possible. It is evident that apart from Certification Seller ("Certificate Seller.pdf"), Certification Buyer ("Certificate Buyer.pdf") has also been added as a pdf file.

Figure 12: User interaction and design after clicking "Upload Certificate" CTA, given that Certificate buyer has uploaded (Essential condition for enabling "Payment Gateway" CTA).

To conclude, it should be mentioned that seller changes the location to "Shipped to Buyer Co. name, City" thus causing the indirect modification of items location status in "Accepted offers" tab (i.e., "Installer name & surname (in transit)"). After buyer receives items, he /she can change the location to his own company address; this change also modifies address on seller's side indicating that buyer has received merchandise. However, buyer can change location of merchandise if and only if the previous location status is "in transit" ("Shipped to Buyer Co. name, City" by seller side). This happens in order to prevent changing location of items that are on seller stock and not dispatched, yet.

3 Future work

Overall, the work package has made a very good progress. However, there are some functionalities from those described above that are still in early stage and should be further improved in the near future. Thus, the following updates are envisaged:

❖ R-Gas sell functionalities.

❖ Filters - location; km range; quantity; type; quality.

❖ Calculation of "best price range".

❖ Implementation of third-party payment service with a functionable payment gateway.