

Life3R

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

Deliverable: Work Package: Seller-Company R-market

Action C3

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Abstract

This deliverable focuses on the work package applied by **R-gas sellers to manage sales activities** when using the R-market. It is noted that sellers are considered to be the different installation and service companies active in primary air conditioning (AC) and refrigeration sector as well as partner networks registered in the 3R ECOSYSTEM with a view to participating in the relevant mercantile procedures via 3R Marketplace platform. Specifically, the crucial point of this deliverable document is the story map of R-Gas selling processes implemented by an Installer Co. admin.



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1 Basic scenario

1.1 User Story Map

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

- a. Stock.
- b. Published.
- c. Received offers.
- d. Accepted offers.
- e. Proforma invoice.

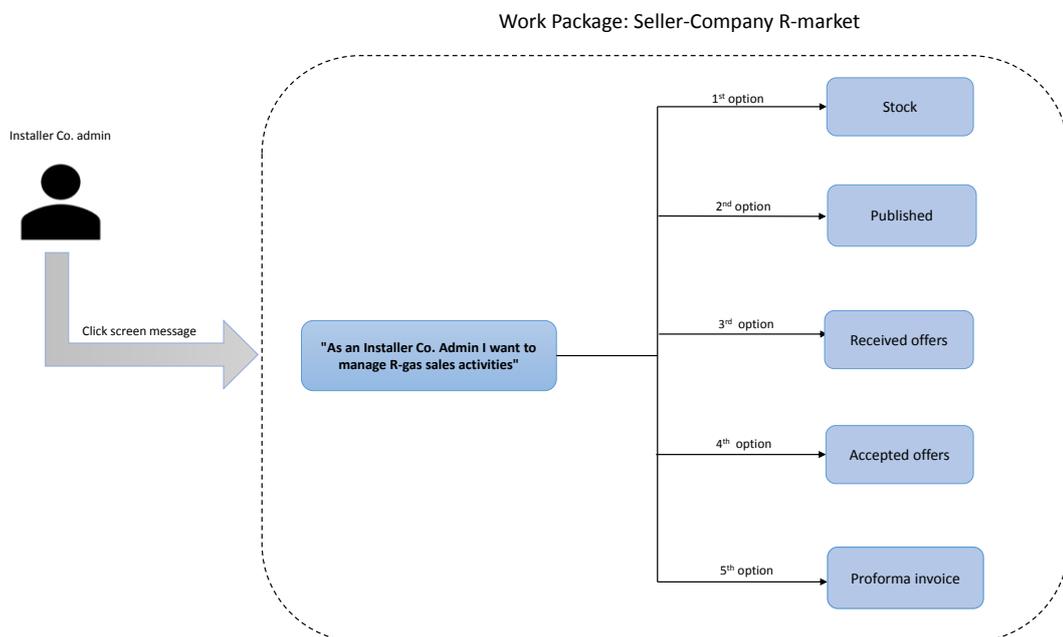


Figure 1: Overview of seller-company R-market.



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. Hence, if Installer 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 Installer 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 seller's screen. Regarding filters, the options available are 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 Stock

The Installer Co. admin selects the first (1st) option from the five (5) options / functionalities available to manage R-Gas on stock. A template of user interaction and design for R-Market tab with "Stock" option enabled, is depicted in **Figure 2**:



user.account@r-market.com

R - Market

R - Market Price Range 29.03.2019.
A 60,00 B 40,00 C 15,00

STOCK PUBLISHED RECEIVED OFFERS ACCEPTED OFFERS PROFORMA INVOICE

Filter_1 X add filter Search X

REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	PRESUMED QUALITY	LOCATION		
010320191420134	01.03.2019	R134a	13,00	B	Installer Co. name, Zagreb	▼	View Publish
050320191422410	05.03.2019	R410a	11,30	B	Installer name&surname (in transit)	▼	View Publish
200320191022410	20.03.2019	R410a	11,30	B	Installation site, Split	▼	View Publish

Back to Dashboard

Figure 2: User interaction and design for "Stock" tab.

Basically, "Stock" tab displays all the stock of extracted R-Gas in company possession. Then, it is the detail view of each item that provides the seller with more information about quality certificate status and R-gas stock location, respectively. Therefore, by clicking the "View" CTA, Installer Co. Administrator can select a special button in order to upload a quality certificate if no certificate is uploaded (**Figure 3**) or access to a PDF hyperlink if certificate has already been uploaded (**Figure 4**).

Thus, the need is met for the user to be able to upload a quality certificate in case he /she chooses to confirm quality of R-Gas prior to publishing it on R-Market. Besides, it has been assumed that seller can send collected R-Gas to testing in order to know what is the quality of merchandise he /she wants to offer on the R-Market.

user.account@r-market.com

R - Market

R - Market Price Range 29.03.2019.
A 60,00 B 40,00 C 15,00

STOCK PUBLISHED RECEIVED OFFERS ACCEPTED OFFERS PROFORMA INVOICE

Filter_1 X add filter Search X

REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	PRESUMED QUALITY	LOCATION		
010320191420134	01.03.2019	R134a	13,00	B	Installer Co. name, Zagreb	▼	View Publish
Upload Certificate							
LOCATION: Installer Co. + full address							
050320191422410	05.03.2019	R410a	11,30	B	Installer name&surname (in transit)	▼	View Publish
200320191022410	20.03.2019	R410a	11,30	B	Installation site, Split	▼	View Publish

Back to Dashboard

Figure 3: User interaction and design after clicking option "View" for one of the listing items (R134a) included in "Stock" tab (no certificate is uploaded).

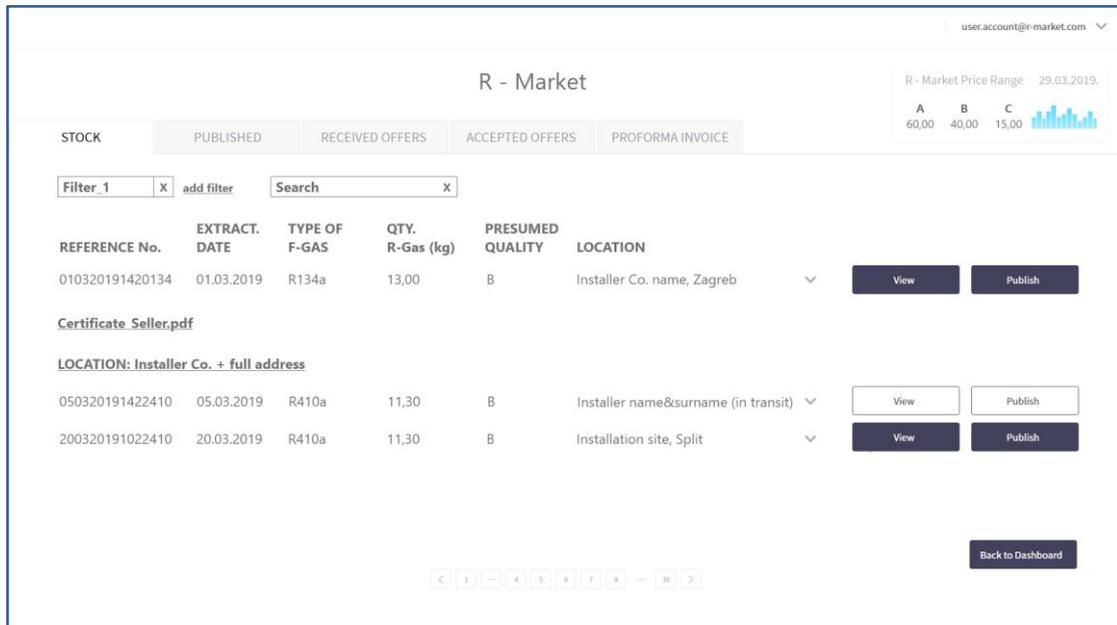


Figure 4: User interaction and design after clicking option "View" for one of the listing items (R134a) included in "Stock" tab (certificate has already been uploaded).

Furthermore, additional details for the R-Gas stock location are available via "View". Basic info for either company location, installation site of the units or installer's identification are displayed in the "Location" column of Stock tab. Hence, the kind of extra material depend on the format of notes that are initially found in the "Location" table (e.g., see Figures 2 & 3/4: Location 1: Installer Co. name, City → View → Installer Co. full address, Location 3: Installation site, City → View → Customer Co. name + full address, etc.).

Regarding Location 2 (i.e.: "Installer name & surname (in transit)"), it is considered to be a kind of informational data for Installer Co. administrator as items that are "in transit" cannot be published on R-Market. In other words, if administrator wants to put an item on sale, he /she should set the corresponding location status to Installer Co. or Installation site address option in order to have the choice of CTA "Publish".

It should be highlighted that after "Publish" command has been executed for an item, it is automatically transferred from "Stock" to "Published" tab. Finally, administrator can also change location of an item while it is in Stock tab. For example, he /she modifies location from "installer" to "company" when an item has been delivered to company by installer.

2.2 Published



The Installer Co. admin selects the second (2nd) option from the five (5) options / functionalities available to manage R-Gas published on the market. A template of user interaction and design for R-Market tab with "Published" option enabled, is depicted in **Figure 5**:

The screenshot shows the 'R - Market' interface with the 'PUBLISHED' tab selected. The table lists three gas offers with columns for Reference No., Extract Date, Type of F-Gas, Qty. R-Gas (kg), Presumed Quality, Location, and Offer Valid for Next. Each row has 'View' and 'Unpublish' buttons. A 'Back to Dashboard' button is at the bottom right.

REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	PRESUMED QUALITY	LOCATION	OFFER VALID FOR NEXT		
010320191420134	01.03.2019	R134a	13,00	B	Installer Co. name, Zagreb	32:28:55	View	Unpublish
050320191422410	05.03.2019	R410a	11,30	B	Installer Co. name, Zagreb	18:33:14	View	Unpublish
200320191022410	20.03.2019	R410a	11,30	B	Installation site, Split	04:59:07	View	Unpublish

Figure 5: User interaction and design for "Published" tab.

Basically, "Published" tab represents stock that is offered for selling. Moreover, the first CTA available is "View" in case more location details are required for each item. This feature also makes possible the attachment to the seller quality certificate (if there is one). The second CTA available is "Unpublish" which can be used to remove an item from the market (**Figure 6**).

This screenshot shows the detailed view of the first offer from the previous screenshot. It includes a 'Certificate Seller.pdf' attachment and 'LOCATION: Installer Co. + full address' details. The 'View' and 'Unpublish' buttons are still present.

REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	PRESUMED QUALITY	LOCATION	OFFER VALID FOR NEXT		
010320191420134	01.03.2019	R134a	13,00	B	Installer Co. name, Zagreb	32:28:55	View	Unpublish
Certificate Seller.pdf								
LOCATION: Installer Co. + full address								
050320191422410	05.03.2019	R410a	11,30	B	Installer Co. name, Zagreb	18:33:14	View	Unpublish
200320191022410	20.03.2019	R410a	11,30	B	Installation site, Split	04:59:07	View	Unpublish

Figure 6: User interaction and design after clicking option "View" for one (R134a) of the listing items included in "Published" tab.

Indeed, each item is published for a limited period of time (i.e., 48 hours). If no offers have been made by then, item is removed from the market. This implies that it is not displayed any more in "Published" tab but it goes back again in listing of "Stock" tab. In contrast, if offer(s) have been received during this period but there is still no response from the Installer Co. administrator, a warning email will be sent to him /her stating that time has expired and it is necessary to arrange the pending offers immediately. In case of no reaction within 24 hours, the offers are automatically rejected and the corresponding item moves from "Published" to "Stock".

2.3 Received offers

The Installer Co. admin selects the third (3rd) from the five (5) options functionalities available to manage received offers for the R-Gas published on the market. Basically, "Received offers" tab contains all the stock on sale for which one or more offers have been received. A template of user interaction and design for R-Market tab with "Received offers" option enabled, is depicted in **Figure 7**:

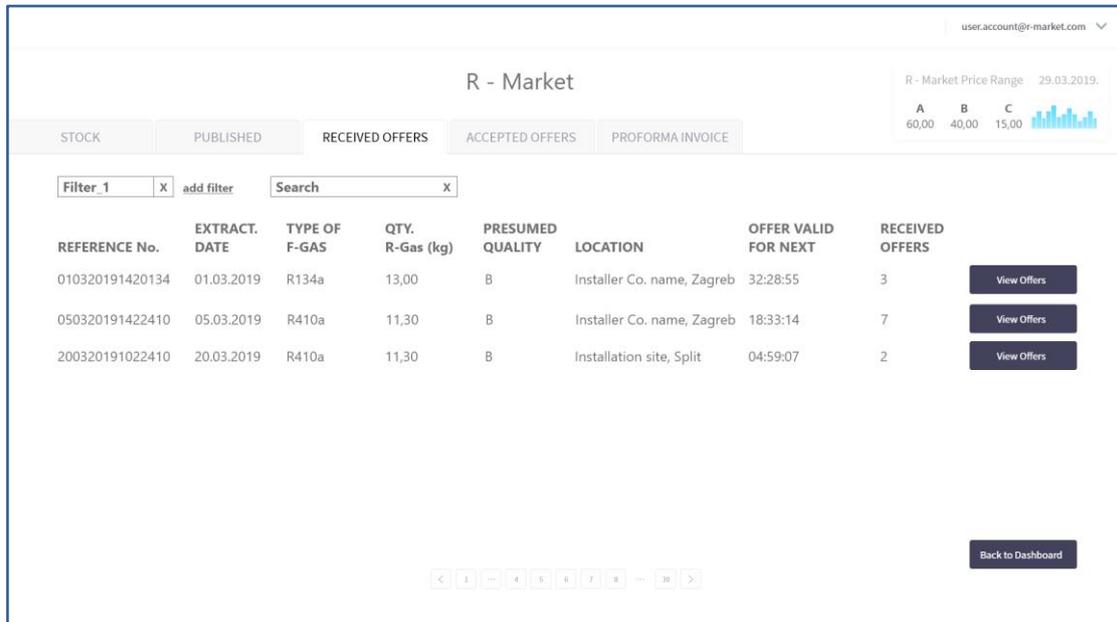
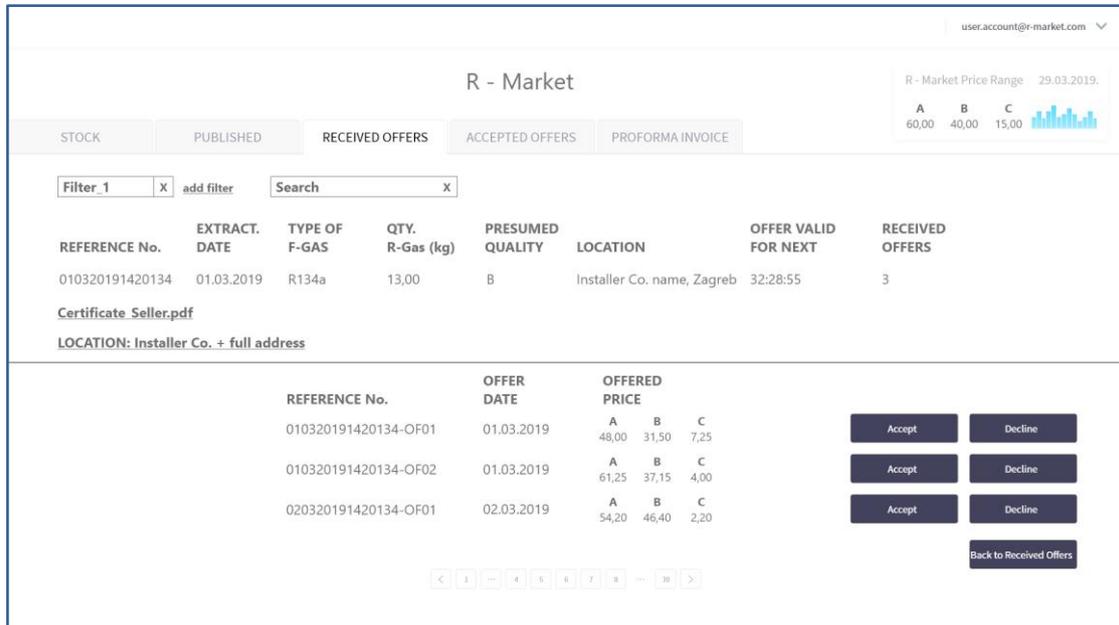


Figure 7: User interaction and design for "Received Offers" tab.

If a buyer makes an offer for an item, that item is automatically moved from the "Published" to "Received offers" tab. Whenever the administrator is interested in all the received offers for a specific item, he /she can use the "View offers" CTA. This feature leads to a detail page that incorporates all basic functionality and layout from "Published" tab (additional location

information and a Certificate Seller pdf file) plus a relevant list of all offers that match an item (**Figure 8**).



STOCK	PUBLISHED	RECEIVED OFFERS	ACCEPTED OFFERS	PROFORMA INVOICE			
Filter 1 X	add filter	Search X					
REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	PRESUMED QUALITY	LOCATION	OFFER VALID FOR NEXT	RECEIVED OFFERS
010320191420134	01.03.2019	R134a	13,00	B	Installer Co. name, Zagreb	32:28:55	3
Certificate Seller.pdf							
LOCATION: Installer Co. + full address							
REFERENCE No.	OFFER DATE	OFFERED PRICE					
010320191420134-OF01	01.03.2019	A	B	C	Accept	Decline	
		48,00	31,50	7,25			
010320191420134-OF02	01.03.2019	A	B	C	Accept	Decline	
		61,25	37,15	4,00			
020320191420134-OF01	02.03.2019	A	B	C	Accept	Decline	
		54,20	46,40	2,20			

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

As shown in Figure 8, each received offer is characterized by a unique reference number (No.) for further traceability. The date of the offer is also mentioned as well as the offered price per each quality grade. However, only one offer can be accepted via the corresponding CTA (i.e., "Accept"). Meanwhile, user (seller) must decline all the other offers ("Decline") to complete the process*. Finally, a notification email is sent to the Distributor Co. Buyer for the approval of his/her offer.

2.4 Accepted Offers

The Installer Co. admin selects the fourth (4th) from the five (5) options/ functionalities available to manage accepted offers for the R-Gas published on the market. Basically, "Accepted offers" tab contains all that items for which an offer has been approved by seller. This means that the relevant entry from "Received offers" listing is transferred to "Accepted offers" listing, too. A template of user interaction and design for R-Market tab with "Accepted Offers" option enabled, is depicted in **Figure 9**:

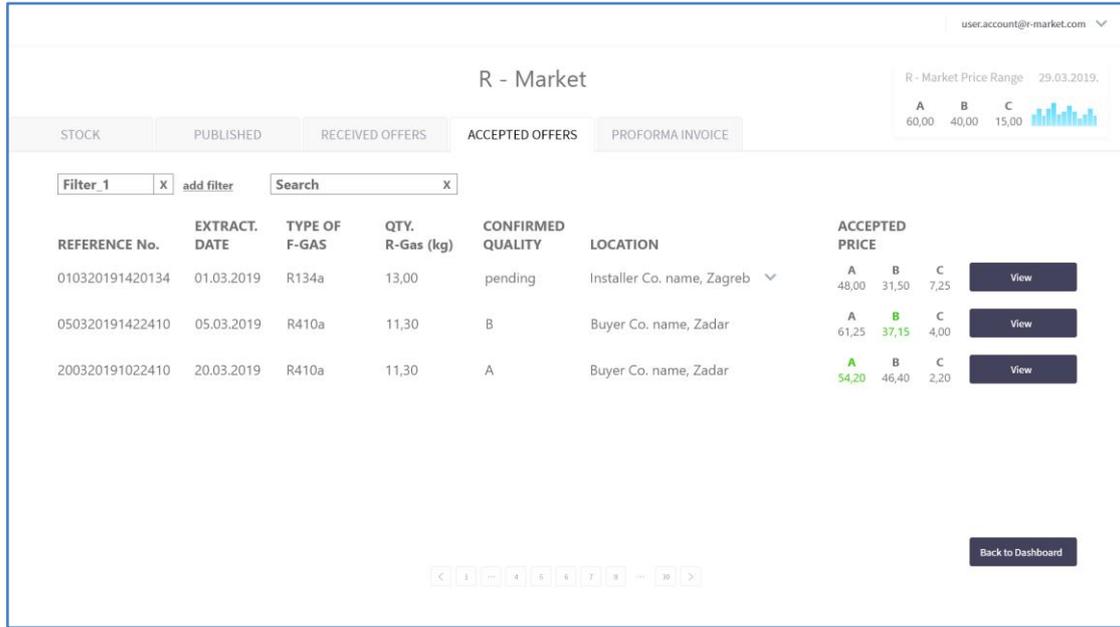


Figure 9: User interaction and design for "Accepted Offers" tab.

By accepting an offer, the seller is obliged to send the items to buyer in order to get them tested. After items have been shipped, the Installer Co. administrator will have to change location of the items to indicate that they are in transit (**Figure 10**). Thus, he / she also manages to differentiate items between those that have been sent and those that are still in stock; Distributor Co. administrator can receive information that items are on the way.

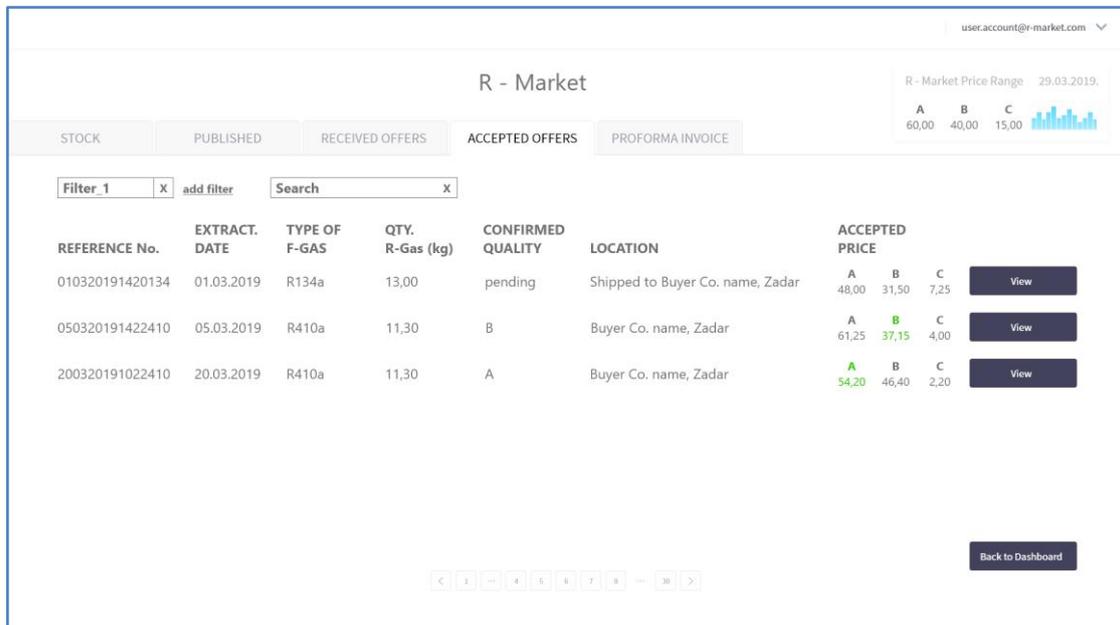


Figure 10: User interaction and design after changing the location status of an item (R134a) included in "Accepted Offers" tab.

Moreover, the "View" CTA is still available, opening a detail view about quality certificate (if seller has uploaded it) and location for each item of the list displayed in "Accepted Offers"

tab (**Figure 11**). The kind of additional location details is configured according to i) the format of the very primary notes found in the "Location" column and ii) the progress of shipping of items to buyer.

As long as the items are in transit, the detail view will have the indicative outputs below:

- Location 1: Installer Co. name, City → Shipped to Buyer Co. name, City → View → In transit: Installer Co. full address to Buyer Co. name + full address.
- Location 3: Installation site, City → Shipped to Buyer Co. name, City → View → In transit: Customer Co. name + full address to Buyer Co. name + full address.

Likewise, after buyer receives the merchandise and changes the address to his /her location, the output of detail view will be modified as follows:

- Shipped to Buyer Co. name, City → Buyer Co. name, City → View → Buyer Co. name + full address.

REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	CONFIRMED QUALITY	LOCATION	ACCEPTED PRICE	
010320191420134	01.03.2019	R134a	13,00	B	Shipped to Buyer Co. name, Zadar	A 48,00 B 31,50 C 7,25	View
<u>Certificate Seller.pdf</u>							
LOCATION: in transit Seller Co. + full address to Buyer Co. + full address							
050320191422410	05.03.2019	R410a	11,30	B	Buyer Co. name, Zadar	A 61,25 B 37,15 C 4,00	View
200320191022410	20.03.2019	R410a	11,30	A	Buyer Co. name, Zadar	A 54,20 B 46,40 C 2,20	View

Figure 11: User interaction and design after clicking option "View" for one (R134a) of the listing items included in "Accepted offers" tab.

Regarding "Confirmed quality" status, it remains "pending" both in case the stock is in transit and in case the buyer has received the stock but the quality test is in progress (see Figure 10). After completing quality test process, buyer needs to upload a certificate as well as set a quality grade. Therefore, "Confirmed quality" status will change from "pending" to the preferred grade. The "Accepted Price" status will also change to highlighted quality grade and price (**Figure 12**).

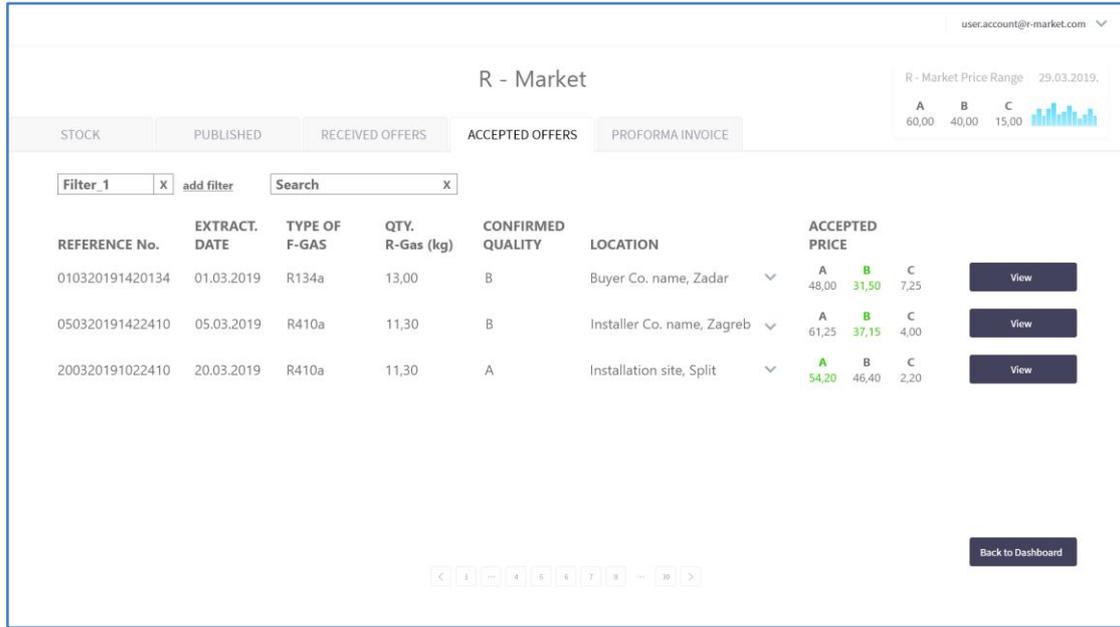


Figure 12: User interaction and design for "Accepted Offers" tab after the quality of an item (R134a) has been confirmed by buyer.

Finally, the upload of a certificate by buyer will result in the display of a relevant pdf hyperlink ("Certificate Buyer. pdf") among the other details loaded by clicking the "View" CTA (Figure 13).

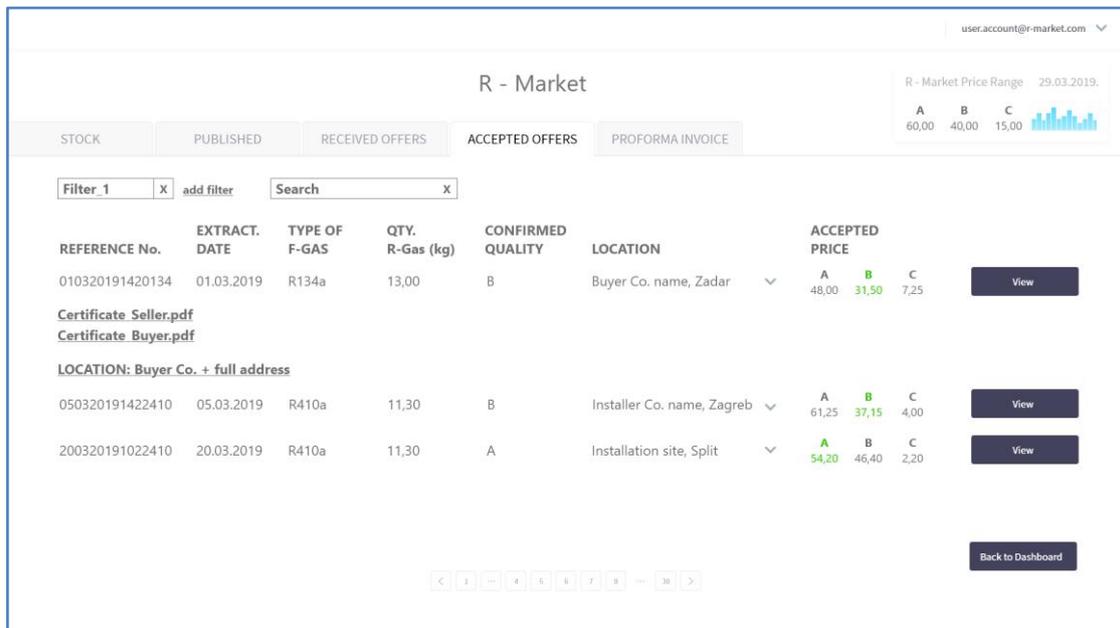


Figure 13: User interaction and design after clicking option "View", given the quality confirmation of an item (R134a) by buyer.

2.5 Proforma invoice

The Installer Co. admin selects the fifth (5th) from the five (5) options / functionalities available to create Proforma Invoice for accepted offers. Basically, "Proforma Invoice" tab displays listing of all accepted offers grouped per individual buyer. A template of user interaction and design for R-Market tab with "Proforma Invoice" option enabled, is depicted in **Figure 14**:

The screenshot shows the 'R - Market' interface with the 'PROFORMA INVOICE' tab selected. It displays a table of offers grouped by distributor. The first distributor has one offer with a disabled 'Create Proforma' button. The second distributor has two offers, one with an enabled 'Create Proforma' button. A 'Back to Dashboard' button is at the bottom right.

DISTRIBUTOR Co. (BUYER) 1		EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	CONFIRMED QUALITY	LOCATION	ACCEPTED PRICE			
010320191420134	01.03.2019	R134a	13,00	B	Buyer Co. name, Zadar	A: 48,00	B: 31,50	C: 7,25	<input type="button" value="Create Proforma"/>	
DISTRIBUTOR Co. (BUYER) 2		EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	CONFIRMED QUALITY	LOCATION	ACCEPTED PRICE			
<input type="checkbox"/>	050320191422410	05.03.2019	R410a	11,30	B	Buyer Co. name, Zadar	A: 61,25	B: 37,15	C: 4,00	<input type="button" value="Create Proforma"/>
<input type="checkbox"/>	200320191022410	20.03.2019	R410a	11,30	A	Buyer Co. name, Zadar	A: 54,20	B: 46,40	C: 2,20	<input type="button" value="Create Proforma"/>

Figure 14: User interaction and design for "Proforma Invoice" tab.

A Proforma invoice can be created for a single item or multiple selection. However, in case that several items are referred to one buyer, at least one item should be selected so that the "Create Proforma" CTA being enabled (**Figure 15**). Otherwise, this option remains disabled for as long as no item has been selected (see Figure 14). It is noted that in case of multiple selection, each selected item is added as one entry.



user.account@r-market.com

R - Market

R - Market Price Range 29.03.2019.
A 60,00 B 40,00 C 15,00

STOCK PUBLISHED RECEIVED OFFERS ACCEPTED OFFERS **PROFORMA INVOICE**

Filter_1 X add filter Search X

DISTRIBUTOR Co. (BUYER 1)

REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	CONFIRMED QUALITY	LOCATION	ACCEPTED PRICE	
010320191420134	01.03.2019	R134a	13,00	B	Buyer Co. name, Zadar	A 48,00 B 31,50 C 7,25	Create Proforma

DISTRIBUTOR Co. (BUYER 2)

Select all

REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	CONFIRMED QUALITY	LOCATION	ACCEPTED PRICE	
050320191422410	05.03.2019	R410a	11,30	B	Buyer Co. name, Zadar	A 61,25 B 37,15 C 4,00	Create Proforma
200320191022410	20.03.2019	R410a	11,30	A	Buyer Co. name, Zadar	A 54,20 B 46,40 C 2,20	Create Proforma

[Back to Dashboard](#)

Figure 15: User interaction and design after selecting one of items referred to one specific buyer (activation of "Create Proforma" CTA).

As it can be seen in **Figure 16**, after Proforma Invoice being created, this can be downloaded, printed or sent over email. In the latter case, the relevant link opens a designated email address belonging to the respective customer. He /she is also the client who needs to provide a design template of Proforma Invoice.

user.account@r-market.com

R - Market

R - Market Price Range 29.03.2019.
A 60,00 B 40,00 C 15,00

STOCK PUBLISHED RECEIVED OFFERS ACCEPTED OFFERS **PROFORMA INVOICE**

Filter_1 X add filter Search X

DISTRIBUTOR Co. (BUYER 1)

REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	CONFIRMED QUALITY	LOCATION	ACCEPTED PRICE	
010320191420134	01.03.2019	R134a	13,00	B	Buyer Co. name, Zadar	A 48,00 B 31,50 C 7,25	Create Proforma

DISTRIBUTOR Co. (BUYER 2)

Select all

REFERENCE No.	EXTRACT. DATE	TYPE OF F-GAS	QTY. R-Gas (kg)	CONFIRMED QUALITY	LOCATION	ACCEPTED PRICE	
050320191422410	05.03.2019	R410a	11,30	B	Buyer Co. name, Zadar	A 61,25 B 37,15 C 4,00	Create Proforma
200320191022410	20.03.2019	R410a	11,30	A	Buyer Co. name, Zadar	A 54,20 B 46,40 C 2,20	download print send email

[Back to Dashboard](#)

Figure 16: User interaction and design after creating a Proforma Invoice (3 management options available: download, print, send email).



3 Future Work

Overall, the work package has made a very good progress and an operational interface was built. However, there are some functionalities from those described above that could be incorporated in future updates and based on the feedback from demo usage. Such as:

- ❖ Filters - location; km range; quantity; type; quality.
- ❖ Algorithm for ranking offers and selecting (i.e., best three offers).