



Qlfresh FIWARE Case Study

March 2016

Qlfresh Agrostis Profile

Project Name:QIFreshCompFIWARE Accelerator:FInishCountGrant Funding:from April 2015 to March 2016Web:Level of Grant funding secured:€124,000ContaTarget Sector:AgrifoodEmail

Company: Agrostis Country: Greece Web: <u>www.agrostis.gr</u> Contact person: Vangelis Vassiliadis Email: v.vassiliadis@agrostis.gr

Vision and Market Need

The QIFresh App facilitates collaboration between retailers, quality inspectors and vendors/suppliers to ensure that shipments of fresh fruit and vegetables meet the minimum marketability requirements according to EU Directives. The platform defines a workflow for the Quality Inspection (QI) process that facilitates the involvement of retailers, inspectors and vendors/suppliers.

The market need was validated through market research carried out from Q2 2015 to the present. This included discussions with businesses active in this sector, participation in trade fairs and B2B matching events. This was carried out in collaboration with Novacert, which is an agricultural consulting company.

Retailers enter shipment information and define the QI templates (requirements). The quality inspector plans and executes an inspection and creates the report. The supplier can then view the report and the QI result. All parties get notified through the platform of any change/update in the process.

The value proposition for end users is fast and efficient Quality Inspection, based on standardised reporting, automated communication and collaboration with all key business partners.

Target Market and Revenue Streams

While the initial target market is Greece, in the longer term the market opportunity is global. The QIFresh App targets Quality Inspectors and large retailers of fresh fruit and vegetables (e.g. multiple supermarket chain). In the EU alone there are more that 3 million shipments per year [faostat.fao.org] and the QI process is currently done either manually or via proprietory systems that cannot effectively communicate the inspection and reporting requirements between the parties involved.

Revenue streams include once off seat-based licenses with a small fee per QI report generated or annual subscriptions based on volume.

Competitive Positioning

Direct competitors including QCone (NL) and MuddyBoots (UK), which are oriented towards use by Quality Inspectors and Enterprise supply chains respectively. Indirect competitors include ERP systems with Quality Management Modules (e.g. SAP R3 QM) that are used by large scale retailers and suppliers in the context of Enterprise Quality Management.



Qlfresh FIWARE Case Study

March 2016

The following matrix summarizes the main characteristics of the competition in terms of its positioning, main target group, focus of their solution and the technical provisioning

System Dimension	QCOne	MuddyBoots	SAPR3 QM	QIFresh
Posistioning	Quality Inspection of Fresh.	Integrated Quality Assurance and Quality Control software	Quality management module	Quality Inspection for Fresh
Targets	QI Firms	Enterprise Supply Chains	Production Facilities Enterprise Supply Chains	Retailers, QI Agents Suppliers
Focus	Qaulity Inspection Reports and Statistics	Quality Control, Supply Chain Optimization	Internal QM of Facility and Enterprise	Quality Inspection Workflow Collaboration
Cloud/Mobile	Yes	Yes	No	Yes

The QIFresh Unique Selling Proposition provides a transparent, open solution focused on facilitating collaboration and communication between the parties involved. It is focused on the Fresh Fruits and Vegetable sectors and provides a platfrom for transparent but secure sharing of Quality Inspection data, reports and statistics.

QIFresh App features include:

- Retailers can organize loading plans and the quality inspection of each shipment. They receive process updates and the final Quality Inspection report.
- Quality inspection companies perform the inspection and prepare the reports.
- Fruit and vegetable suppliers are notified of the planning, execution and the result of the inspection and have access to the inspection report.

Benefits include:

- Full process overview from loading plans to the quality inspection reports, covering all the needs of retailers, quality inspectors and suppliers.
- Improves communication & collaboration between retailers, quality inspectors and suppliers.
- Saves time & effort needed to execute the inspection and subsequent reporting
- Minimizes errors during inspection or transferring data from paper reports.
- Eliminates paperwork & e-mail exchanges.
- Provides accurate inspection reporting and useful statistics.
- Instant access to previous Quality Inspection reports.
- Easy and simple to use mobile App which facilitates the capturing & recording of quality inspection data on the spot.
- No upfront investment required.



Qlfresh FIWARE Case Study

In addition to these benefits, QIFresh allows businesses to also find and connect to new partners, suppliers and customers as part of the QIFresh Community

Enabling Technology

Agrostis is an IT company that developes and markets software applications exclusively for the Agrifood domain. Agrostis's core product is ifarma, an integrated clound and mobile farm management system. Penetration of ifarma is picking up in Greece where more than 120 individual farmers is using it as a farm management tool and more that 3,000 farms are managed or monitored using ifarma by consultants and/or agri-food production companies. Agrostis is also in discussions in relation to distribution agreements in Latin America. While QIFresh is not directly integrated with ifarma, its development is based on the same technology, expertise and tools.

FIWARE provided access to tools to support product development. The QIFresh App leveraged the *FISpace B2B Collaboration platform* to host the app and support collaboration, *KeyRock Identity Management* for Authentication and authorisation, *Wirecloud GE* for Web interfaces and *WStore and Marketplace* for App distribution.

Diagram 1 - 6 below provide insights into specific functionality related to process support, the quality inspection form, attaching photos and locations, generating reports, statistics reports and a mobile app for onsite quality inspection.

g Plans	Shipments - QI Reports QI Template	g QI Statistics								
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	Shipments of 1231-Patra									
	New Shipment Edit Selected Remove	Selected								
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Diagram 1 Full process support from Loading Plans to the Quality Inspection reports



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ts - QI Reports QI Templates												
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Properties												
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Property Name	Tolerance (%)	1	2	3	4	5						
•		Confectio	on									
Weight - Pieces	0	0	0	0	0	0						
Weight - Boxes	0	0	0	0	0	0						
Size	10	0	0	0	0	0						
Number	0	0	0	0	0	0						
Palletizing	0	0	0	0	0	0						
-		Organole	eptic									
Taste	0	0	0	0	0	0						
Odour	0	0	0	0	0	0						
Colour	5	0	0	0	0	0						
Consistency - Firmness	5	3	3	3	0	1						
Moisture	0	0	0	0	0	0						
-		Defects										
Non typical shape	10	0	0	0	0	0						
Rots	0	0	0	0	0	0						
Diseases	0	0	0	0	0	0						
Evolving pests	0	0	0	0	0	0						
Not evolving pests	10	3	5	3	0	5						
Open and unhealed wounds	0	0	0	0	0	0						
Healed / Dry wounds	10	0	0	0	0	0						
Calyx and Peduncle	10	0	0	0	0	0						
Sprouting - Germination	5	0	0	0	0	0						
Φ		Cleanline	855									
% out of grade		15	20	13	0	14						
Selling units out of grade		1	1	1	0	1						
Total	4											

SFInish = Accelerate

Diagram 2. Quality Inspection Form

Departure Date Delivery I	Date Destination	Supplier	Article	Brand - Variety	Class	Size	Total Pallet	t Quality Inspection	Status	Assigned to
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02/09/2015 17:11 03/09/20	15 17:11 Sivota	Λαχαναγορά Α.Ε.	aa1	brand1	I	1,2,3	34	Novacert Std	All	Inspector A
Inspection Photos									CREATED	
Inspection Photos									RELEASED	
Start Inspection 2	015-09-09 11:58	Total Palle	ts 34						PLANNED	
End Inspection 1	899-11-30 00:00	Total Boxe	600						IN INSPECTION	
Point of Control	In Truck A	Total Piece	122						COMPLETED	
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Comments			Save							
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Diagram 3 Attach pictures and documents



Page 4 of 6



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Qlfresh FIWARE Case Study

Plans Shipments - QI Reports QI Temp							
Namé	Description		Variety	Owner		ublic	
Name	Description		All	→ All	~		
Nectarines Standard			Nectarines	Novacert Std		'es	
Oranges Valencia			Peaches	Novacert Std		es les	
Properties of Oranges Valencia			1 Martin Addes	Construction of the second		1960	
💮 New Property 🥒 Edit Selected 📼 Re			1.4.5				
Name	Report Group	Applies to	Cate		Tolerance Extra (%)	Tolerance I (%)	Tolerance II (%)
1 Calyx and Peduncle	Presentation	Piece	Defe		10	10	10
2 Colour 3 Consistency - Firmness	Quality Quality	Piece		anoleptic anoleptic	5	5	5
4 Diseases	Presentation	Piece	Defe		0	0	0
4 Diseases 5 Evolving pests	Presentation	Piece	Defe		0	9	6
6 Foreign Matter	Other	Box		nliness	0	0	0
7 Healed / Dry wounds	Presentation	Piece	Defe		10	10	10
8 Moisture	Quality	Piece		anoleptic	0	0	
9 Non typical shape	Presentation	Piece	Defe		10	10	10
10 Not evolving pests	Presentation	Piece	Defe		10	10	10
11 Number	Product Definition	Box		fection	0	0	0
12 Odour	Quality	Piece		anoleptic	0	0	0
13 Open and unhealed wounds	Presentation	Piece	Defe		0	0	0
14 Palletizing	Product Definition	Box	Conf	fection	0	0	0
15 Rots	Presentation	Piece	Defe	ects	0	0	0
16 Size	Product Definition	Piece	Conf	fection	10	10	10
17 Soil - Mud	Other	Box	Clea	nliness	10	10	10
18 Sprouting - Germination	Presentation	Piece	Defe	ects	5	5	5
19 Taste	Quality	Piece	Orga	anoleptic	0	0	0
20 Treatment residues	Other	Box	Clea	nliness	0	0	0
21 Weight - Boxes	Product Definition	Box	Conf	fection	0	0	0
22 Weight - Pieces	Product Definition	Piece	Conf	fection	0	0	C
Peaches Standard			Peaches	Novacert Std		'es	

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Diagram 4 Generate custom Quality Inspection Reports

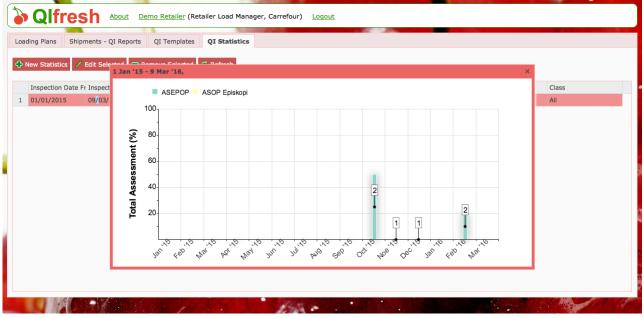


Diagram 5. Statistics Reports per product, quality property and supplier



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March 2016

ifresh			k	3		Ç,	dem	o_qi_ager	it_a	
C QIReport										
Box #	1	2	3	4	5	6	7	8	9	
Pieces	21	10	10	10	10	10	10	10	8	
Confection	1	2	3	4	5	6	7	8	9	+
Number (0.0%)	0	0	0	0	0	0	0	0	3	
Palletizing (0.0%)	0	0	0	0	0	0	0	0	0	
Size (10.0%)	4	0	0	0	0	0	0	0	0	
Weight - Boxes (0.0%)	1	0	0	0	0	0	0	0	0	-
Weight - Pieces (0.0%)	2	0	0	0	0	0	0	0	2	

Sirinish = Accelerate

Diagram 6 Mobile App for on-site quality inspection

Progress to date

Agrostis is focused on developing and marketing ICT solutions for the AgriFood domain. Work on the QIFresh App commenced in April 2015. Agrostis secured a FIWARE Grant under the FInish Accelerator as part of the FI-PPP Phase 3 Progarmme to develop the application and undertake market analysis.

Over the past 11 months the QIFresh App has been developed and the beta system will be rolled out during April 2016. The beta testing phase will run for 4 – 6 months.

Based on alpha testing with NovaCert and a number of their customers, the key functionality already exists. The key effort is now focused on improviding user interface, generation of custom QI reports and pre-defining database of fruit and vegetable categories and QI templates.

Further technical development planned during the next six to twelve months include: fine tuning the mobile version and improving the user and organisation management.

Agrostis is currently raising a further €300,000 in investment over the next 6 months to fund commercial marketing and sales activities after the beta process is completed.