



# Lumity™ Foodservice Data Management Cloud

# Cold Chain Mission and Objectives

**The Burning Problems:**

<p><b>FOOD WASTE</b></p> <p><b>1/3</b></p> <p>Of all food produced spoils and is thrown away</p>	<p><b>FOOD SAFETY</b></p> <p><b>1 in 10</b></p> <p>People contract foodborne illness each year (600million)</p>	<p><b>DRUG WASTE</b></p> <p><b>\$12B</b></p> <p>product loss annually in manufacturing &amp; distribution</p>
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**Shared Vision:** We see a future where all food shipped from farm to fork arrives safely and sustainably.

**Role We Play:** Serving businesses and optimizing our customer’s performance across their Cold Chain.



	Harvest	Processing	Transportation	Distribution	End Users
Compression	✓	✓	✓	✓	✓
Controls	✓	✓	✓	✓	✓
Temperature Management	✓	✓	✓	✓	✓
Cargo Monitoring	✓	✓	✓	✓	✓
Insights and Services	✓	✓	✓	✓	✓
Project Management				✓	✓

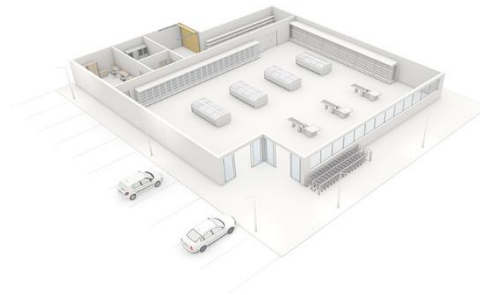
**Our Mission Each Day:**

<p><b>1. Efficiently keep food fresh and safe</b></p>	<p><b>2. Track each step</b></p>	<p><b>3. Make it easy</b></p>
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# Why We Need This IoT Application

## Targeted Markets:

### Convenience Stores



### HoReCa



Item	Description
<b>Infrastructure</b>	End users or little store manager could not have enough resources to build, manage and maintain a complex cloud solution.
<b>Network dimension</b>	Often the network dimension is lower than 10 nodes (end points) to monitor.
<b>Costs</b>	Small installations require low cost solutions and higher flexibility.
<b>Plug&amp;Play</b>	Typical store managers have no time to learn about rich and powerful platforms. More and more they are looking for simple solutions with web pages where to find all the information and data relative to their sites.
<b>Easy to use</b>	Web page available from Mobile phone, tablet and personal PC. Taking a look at your site, every time you want and wherever you are, is the most appreciated feature.
<b>Gen - Z</b>	More and more we are going to see people who only use and live on the web.

# Introduction





## Targeted Markets:





### Convenience Stores



### HoReCa



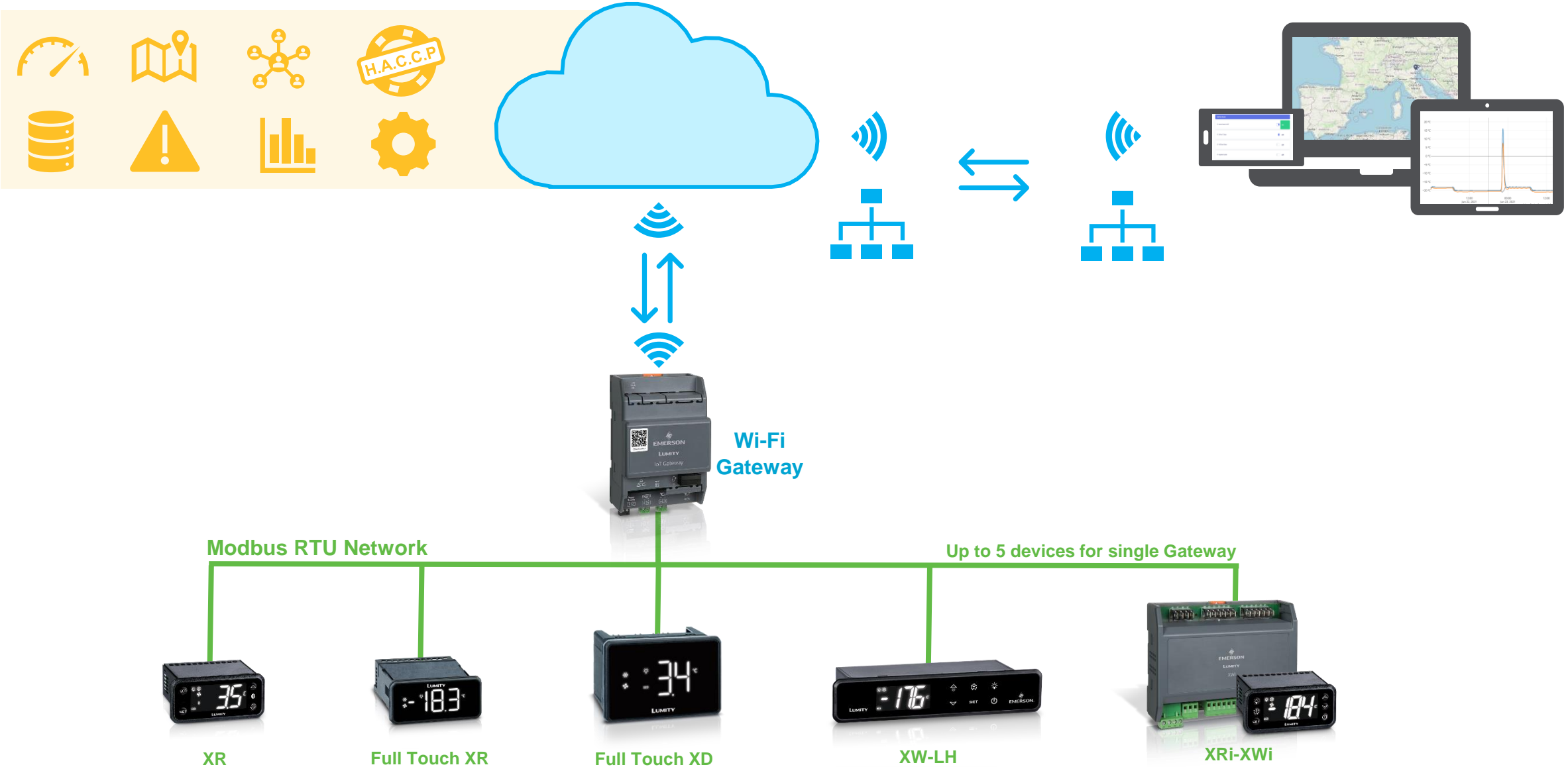
Item	Type	Notes
Platform selection 	Microsoft Azure	<ul style="list-style-type: none"> <li>- Standard Node: <b>Europe Only</b> (*)</li> <li>- Other locations: TBD (**)</li> </ul>
Architecture 	<ul style="list-style-type: none"> <li>- Multi functional web portal</li> <li>- WiFi Gateway</li> <li>- End points (Controllers)</li> </ul>	The gateway does not store any data inside its local memory (no local datalogger)
Compatibility 	Emerson controllers only	Only parametric controllers are currently supported
Integration status 	Running phase	Standard controllers are added step by step

-  Done
-  Close to be finished
-  Ongoing
-  To be planned

(\*) **ATTENTION:** we always need to know where the Gateway is installed!

(\*\*) Germany available

# Overview

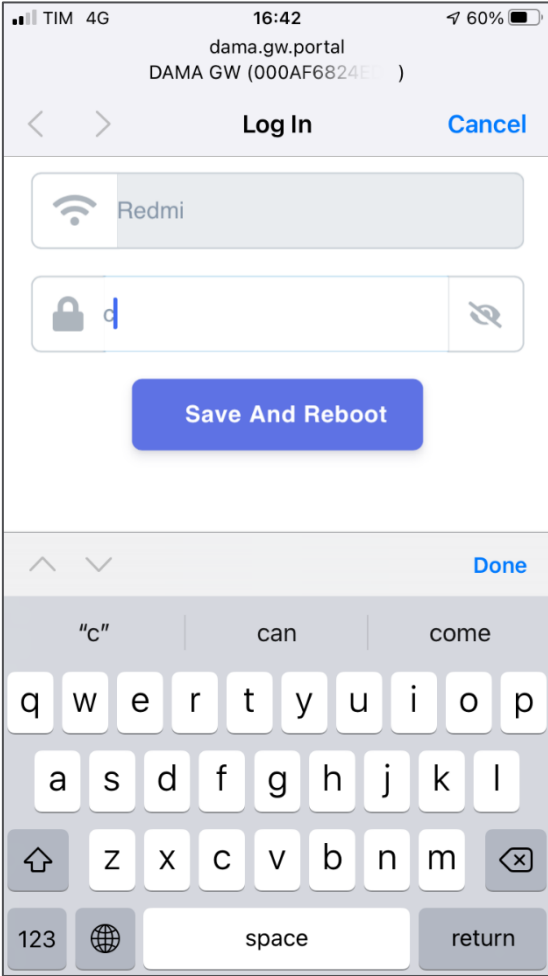
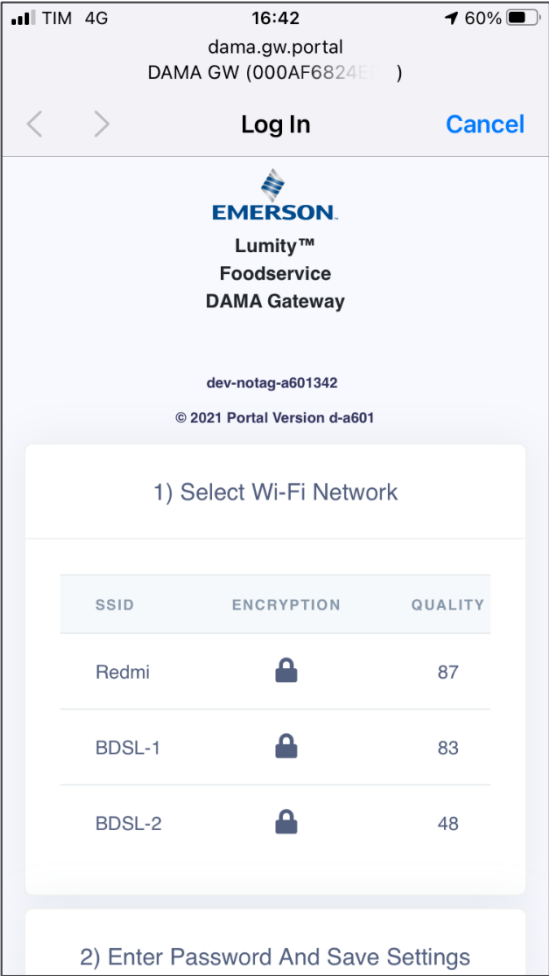
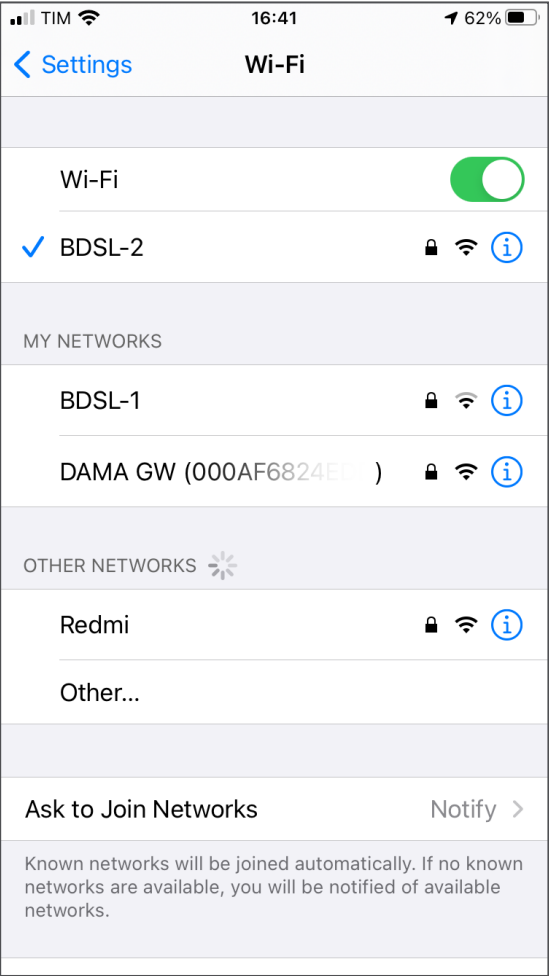


# Overview

## IoT Gateway



- Easy and intuitive configuration/registration



# Features


## Performance and Alarm Status

- **Clear indications about installations:** how many gateway and devices connected, different colors to highligh warning or alarm conditions.
- **Immediate off-link notification:** visual notification about network status.
- **Immediate alarm notification:** speed up countermeasures to avoid food and energy waste.


CONNECTIVITY STATUS  
**No Issues**  
Last Update: 2021-06-25 11:37:07



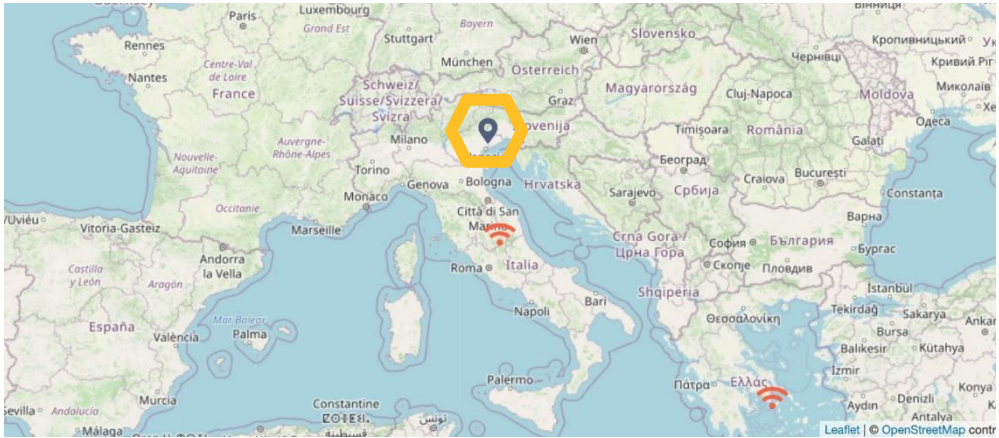
YOUR INSTALLATIONS  
**1 Sites**  
1 Gateways - 6 Devices



ACTIVE ALARMS  
**All Good!**



## Geolocation



- **Geographical data analytics:** facilities manager can easily takes under control sites and equipments.
- **Asset tracking:** expensive and/or strategic equipment can be carefully monitored.

# Features



## User Management

**Access Rights Administration**

Show Viewers  
 Show Owners

[Forget Changes](#) [Save Changes](#)

**SITES**

NAME	GATEWAYS NUMBER	LEVEL
Santa Cruz Lake	1	OWNER

**USERS**

USERNAME	EMAIL	LEVEL
F [redacted]	p[redacted]el@er[redacted].com	<a href="#">Viewer</a> <a href="#">Owner</a> <a href="#">Delete</a>
E [redacted]	e[redacted]2@[redacted].com	<a href="#">Viewer</a> <a href="#">Owner</a> <a href="#">Delete</a>
S [redacted]	s[redacted]@e[redacted].com	<a href="#">Viewer</a> <a href="#">Owner</a> <a href="#">Delete</a>
M [redacted]	m[redacted]@c[redacted].com	<a href="#">Viewer</a> <a href="#">Owner</a> <a href="#">Delete</a>

[Select user...](#) [Owner](#) [Add user](#)

**GATEWAYS**

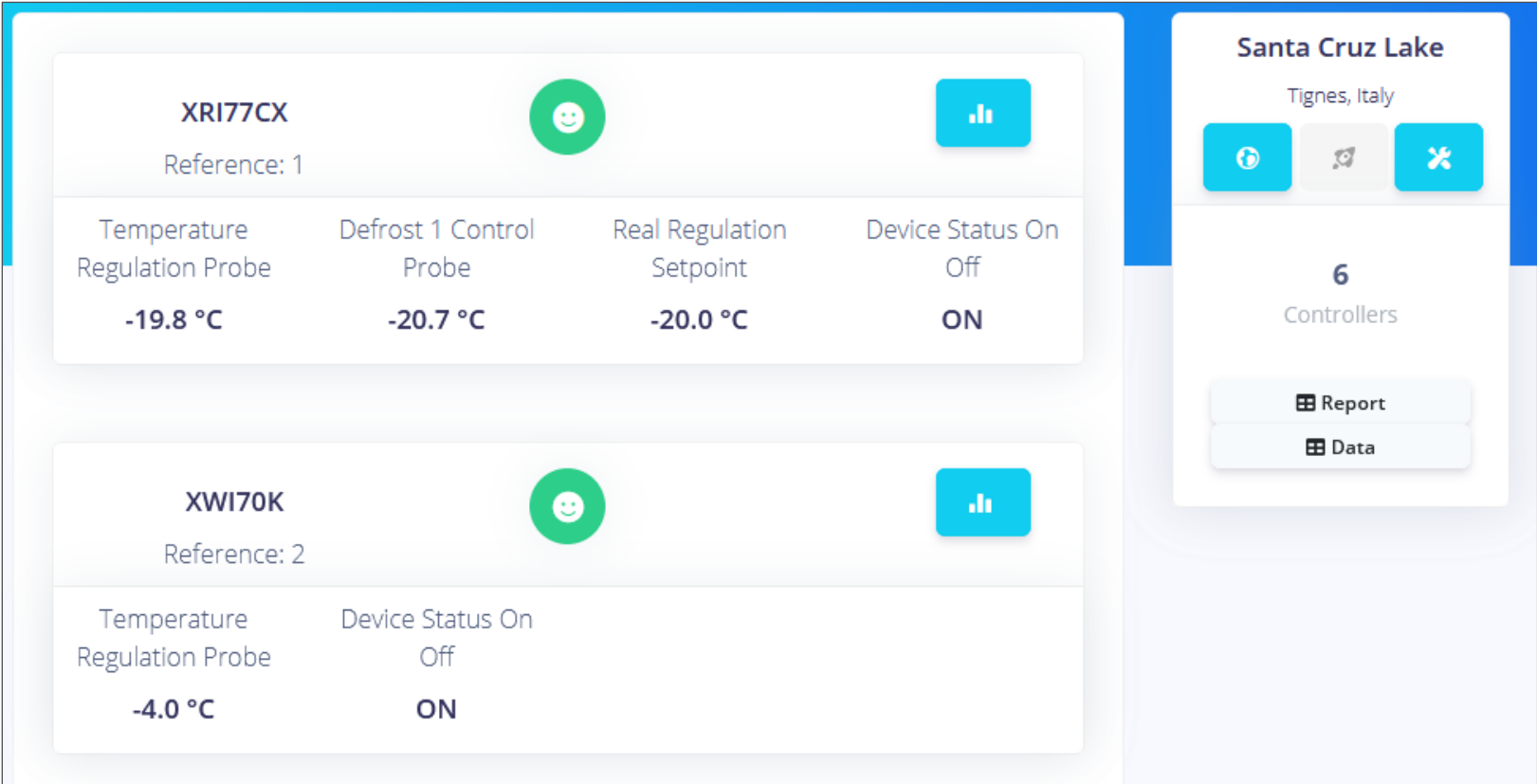
NAME	SITE	DEVICES NUMBER	LEVEL
TestCabinets	Santa Cruz Lake	6	OWNER

- **Team definition and management:** an easy way to add or remove people who can access to specific installations.
- **Multi ownership:** simplify site management and avoid delays due to the absence of someone from the team.



# Features

## Site Data



The screenshot displays a dashboard for site data. On the left, there are two controller cards. The first card, labeled 'XRI77CX' (Reference: 1), shows a green smiley face icon and a bar chart icon. It contains a table with the following data:

Temperature Regulation Probe	Defrost 1 Control Probe	Real Regulation Setpoint	Device Status On
-19.8 °C	-20.7 °C	-20.0 °C	ON

The second card, labeled 'XWI70K' (Reference: 2), also shows a green smiley face icon and a bar chart icon. It contains a table with the following data:

Temperature Regulation Probe	Device Status On
-4.0 °C	ON

On the right, there is a summary card for 'Santa Cruz Lake' (Tignes, Italy). It features three action buttons (refresh, search, close), a large number '6' indicating the number of controllers, and two buttons labeled 'Report' and 'Data'.

- **Summary for any cabinet/controller installed:** take a look to the sites and check the situation.
- **Direct access to data and charts:** inspect the controller/application you want and when you need.

# Features



## HACCP Report

- **Automatic data logging:** plug&play and start saving data from installations.
- **24/7 real time temperature and alarms:** continuous site monitoring.
- **All data are saved and always available on the cloud databases:** no worries about making local backups.
- **No manual work:** automatic HACCP report creation simplifies operations and reduces effort (automatic report distribution not yet implemented).

Food Quality Report - Santa Cruz Lake

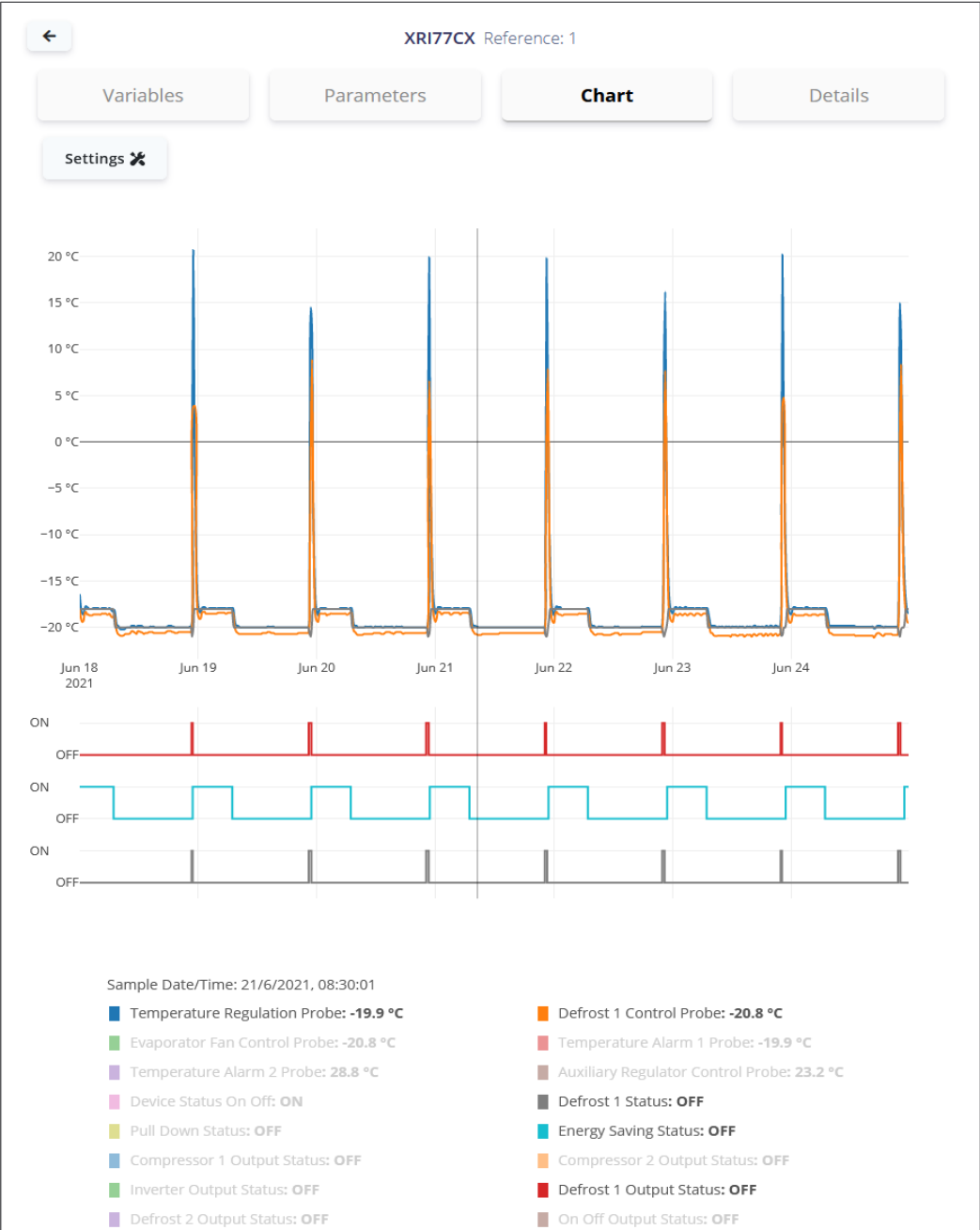
Report of the day: 2021-06-25

Address	Device	Unit	00:00	01:00	02:00	03:00	04:00	05:00	06:00	07:00	08:00	09:00	10:00
TestCabinets													
1	XRI77CX	°C	-18.1	-17.9	-17.9	-17.9	-18.0	-18.0	-18.1	-19.0	-19.9	-19.8	---
2	XWI70K	°C	-2.3	-2.3	-2.4	-2.4	-2.5	-2.5	-2.7	-3.2	-3.9	-4.0	---
10	XH78T	°C	27.2	27.2	27.2	27.2	27.2	27.2		25.1	25.2	25.4	---
12	XR70T	°C	27.5	27.4	27.3	27.3	27.3	27.2	26.0	25.5	25.6	25.7	---

# Features

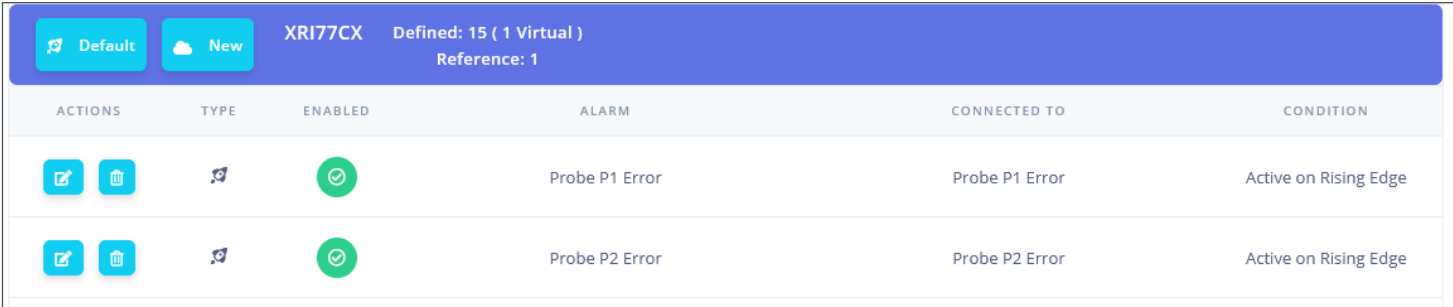
## Historical Charts









- **Multi trace chart:** both analogue and digital variables can be compared in the same chart.
- **Preset or customized intervals for data visualization:** a short interval for inspection or longer times for trend analysis.
- **Trace overlapping:** select two or more available variables and discover what is happening.



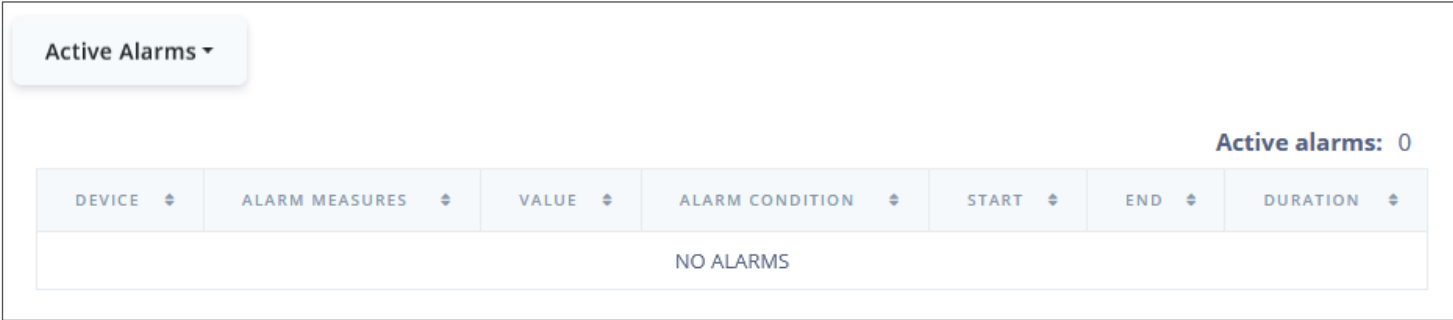
# Features

## Alarm Management



ACTIONS	TYPE	ENABLED	ALARM	CONNECTED TO	CONDITION
 			Probe P1 Error	Probe P1 Error	Active on Rising Edge
 			Probe P2 Error	Probe P2 Error	Active on Rising Edge

- **Virtual alarm configuration:** define additional events that best suit the application (for example the “on-off” alarm following a stand-by condition).
- **List of all active alarms with specific information as:**
  - Which device
  - Which variable with current value
  - Event start, end and duration



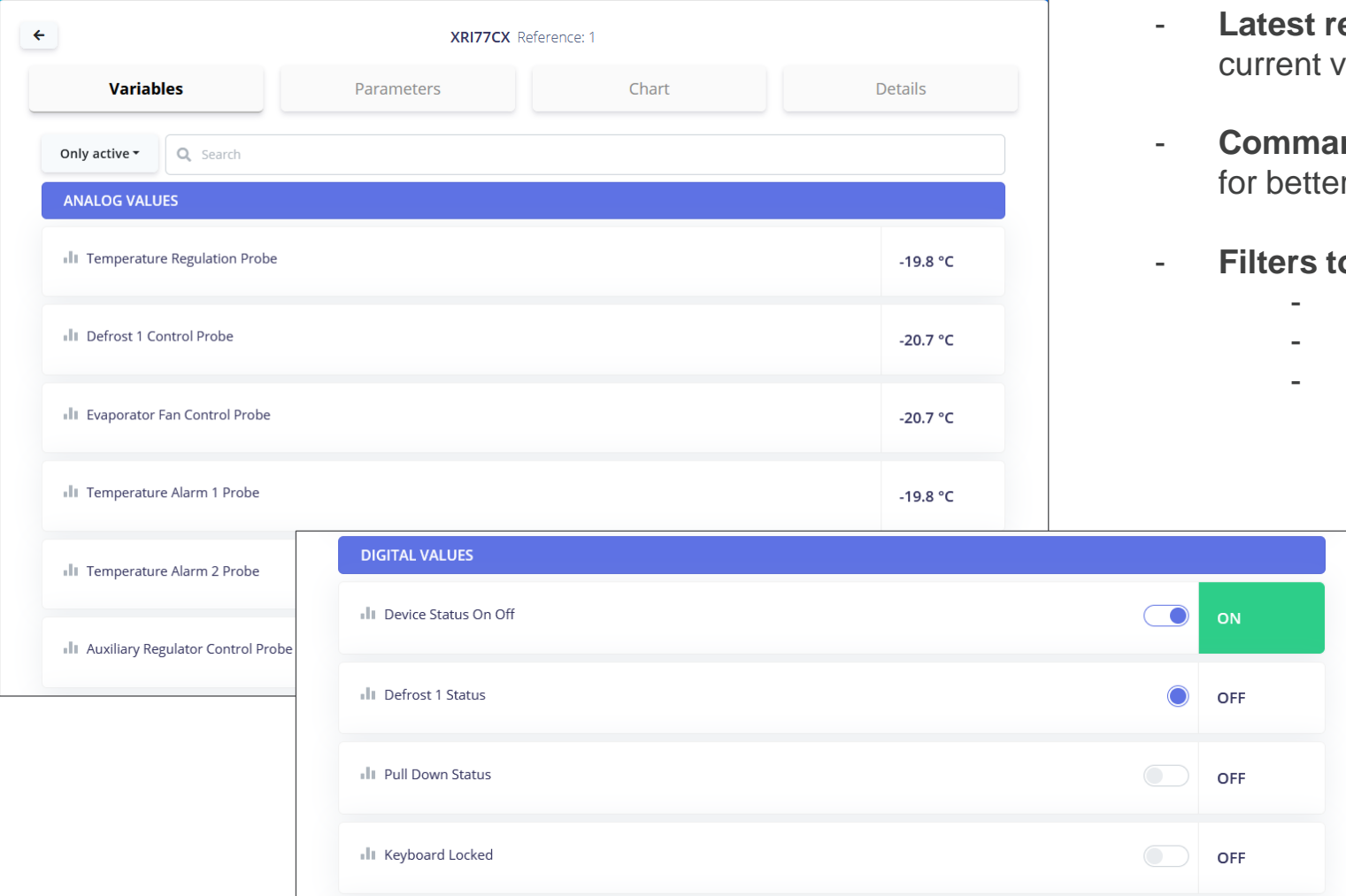
Active Alarms ▾

Active alarms: 0

DEVICE	ALARM MEASURES	VALUE	ALARM CONDITION	START	END	DURATION
NO ALARMS						

# Controller Monitoring

## Analogue and Digital Values



The screenshot displays the 'Variables' tab for 'XRI77CX Reference: 1'. It features a search bar with a dropdown menu set to 'Only active' and a search icon. Below the search bar, there are two main sections: 'ANALOG VALUES' and 'DIGITAL VALUES'. The 'ANALOG VALUES' section contains a table with four rows of temperature probes and their current values. The 'DIGITAL VALUES' section contains a table with four rows of status indicators, each with a toggle switch and a label.

ANALOG VALUES	
Temperature Regulation Probe	-19.8 °C
Defrost 1 Control Probe	-20.7 °C
Evaporator Fan Control Probe	-20.7 °C
Temperature Alarm 1 Probe	-19.8 °C

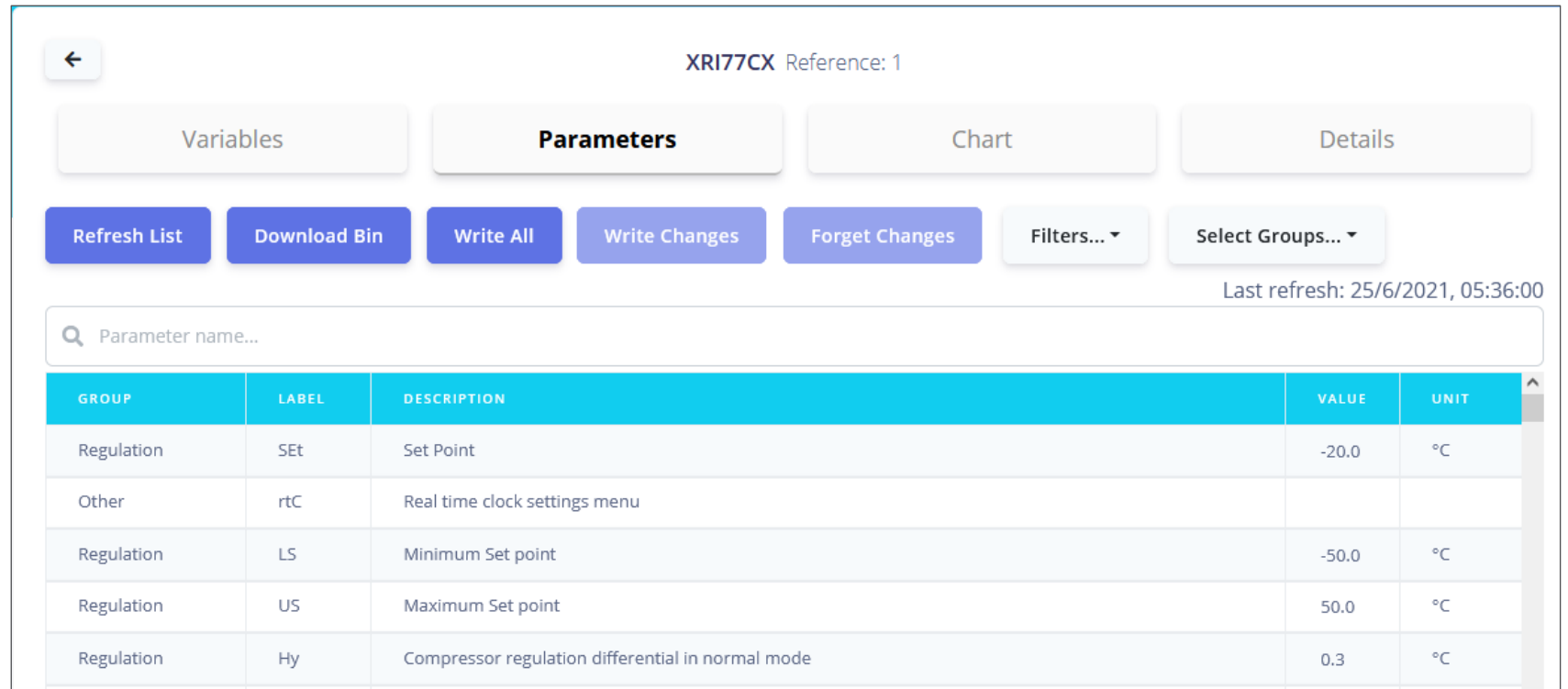
DIGITAL VALUES	
Device Status On Off	<input checked="" type="checkbox"/> ON
Defrost 1 Status	<input type="checkbox"/> OFF
Pull Down Status	<input type="checkbox"/> OFF
Keyboard Locked	<input type="checkbox"/> OFF

- **Latest received values:** the lists of analogue and digital variables show the current value.
- **Commands:** are integrated into digital values view to simplify operations and for better understanding.
- **Filters to speed up search operations:**
  - All available variables
  - Only active variables
  - Search by variable name

# Controller Monitoring

## Parameters

- **Full parameter map download:** automatic creation of a Wizmate compatible file format for sharing with other people or Service.
- **Single parameter modification:** acts only where you need.
- **Single parameter search filter:** perfect when you remind part of the parameter label.
- **Parameter group selection:** check and modify all parameters relative to a specific feature (for example Defrost).



The screenshot shows the 'Parameters' tab for device XRI77CX. It features a navigation bar with 'Variables', 'Parameters', 'Chart', and 'Details'. Below the navigation bar are several action buttons: 'Refresh List', 'Download Bin', 'Write All', 'Write Changes', 'Forget Changes', 'Filters...', and 'Select Groups...'. A search bar is located above a table of parameters. The table has columns for GROUP, LABEL, DESCRIPTION, VALUE, and UNIT. The last refresh time is 25/6/2021, 05:36:00.

GROUP	LABEL	DESCRIPTION	VALUE	UNIT
Regulation	SEt	Set Point	-20.0	°C
Other	rtC	Real time clock settings menu		
Regulation	LS	Minimum Set point	-50.0	°C
Regulation	US	Maximum Set point	50.0	°C
Regulation	Hy	Compressor regulation differential in normal mode	0.3	°C

# Q&A

Questions	Answers	Notes
How many devices for gateway	3 or 5	Price of the cloud services depends on the number of devices.
Field bus type	Modbus RTU	
Connectivity	Only WiFi 2,4GHz	
Price	<b>Promo</b> pricing (1 gateway + 2 years of cloud services included)	When <b>promotional</b> period ends (6 months), there will be the possibility to choose the renewal of the cloud service or to cancel the current subscription.
Payment terms	Advance payment	The cloud infrastructure is scalable but it needs to be pre set to work properly (subscription payments 12 or 24 months).
Features	Geolocation, Data storage, HACCP reports, parameter R/W, near-realtime alarm notification.	
How many variables for every device	All the relevant variables defined by Emerson	
Sampling time	<ul style="list-style-type: none"> <li>- Analogue values: 15 min</li> <li>- Alarms and status: on status change</li> </ul>	Different intervals under analysis but not available with <b>promotional</b> period. <b>WARNING: pressure values and electronic valve status cannot be monitored in real time.</b>
Data availability	<ul style="list-style-type: none"> <li>- Always when the cloud service is active (during payment period).</li> <li>- 1 month after service ends.</li> </ul>	<ul style="list-style-type: none"> <li>- Some reminders will be sent to the end user before and after the expiring date of the cloud service period.</li> <li>- After expiring the payment service period, there will be one month to reactivate the cloud services. During this time all the user data will be available for download only. At the end of the additional month, all user data will be lost.</li> <li>- Only the latest 12 months are available on the cloud, older ones are automatically erased.</li> </ul>
GDPR compliance	Yes	

# Q&A

Questions	Answers	Notes
Could I get the platform customized? Logos? White labeling?	<p><b>Logo:</b> possible but a new development is requested and the effort is very strong.</p> <p><b>White Labeling:</b> possible but a new development is requested and the effort is very strong. Not available for <b>Promo</b> pricing.</p> <p><b>Platform customizations:</b> very expensive investment and strong effort. Not available for <b>Promo</b> pricing.</p>	No customized domains are available.
Is there an available monitoring On Premises rather than in the Cloud?	This is a pure cloud solution, other solutions are available where on premises installation is required.	
Is the gateway also datalogger?	All variables and data are stored on the cloud databases.	
Why don't have the connectivity directly in the controller?	<ul style="list-style-type: none"> <li>- Compatibility with existing products or installations.</li> <li>- Costs that are reduced as the number of connected devices (to the gateway) increases.</li> <li>- No WiFi coverage/connection issues due to controllers placed in low signal areas.</li> <li>- Wide range of compatible applications. No long times for HW redesign, FW porting and development, certifications, etc. which are required for a new controller with embedded connectivity.</li> <li>- Agnostic solution.</li> </ul>	Ethernet available but it depends on quantity.
Could we get rid of the gateway?	This is an end to end solution. The gateway is an essential part of it.	
What happens now with the Bluetooth connectivity and apps and how this platform is linked?	Both solutions keep on working independently. In the future, the Bluetooth solution will migrate into the Data Management Cloud.	
Could we add accessories like webcam, energy metering or 3rd party components?	The integration of 3rd party component is possible but it requires a feasibility evaluation. Not available for <b>Promo</b> pricing.	



# Thank you!



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