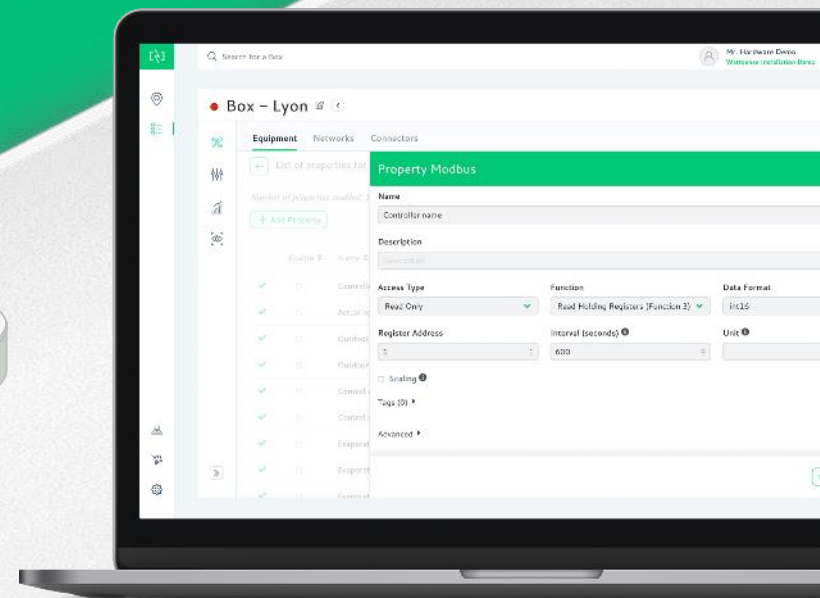




# Technical presentation





## Lorawan evolution

### General

By redefining the **most appropriate Spreading Factor**, we have improved how our server adapts its connection to a device to maximize its battery life (article coming soon)



**SF 12**



**SF 7**



## Lorawan evolution

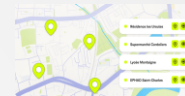
**Sending downlinks for class C devices has been revised.**

You can send downlinks in bulk to class C devices like with class A devices  
(1 downlink only in the queue)



Our embedded server will transmit class C devices downlinks with a 13 seconds delay.





# Lorawan evolution

## Frame counter

Finally, the frame counter is a new property available **for free** for all your LoRaWAN devices. Thanks to it, you can ensure that your Wattsense box receives the frames correctly.

● Thiers Primary School ⓘ

← Liste des propriétés pour [Device Name]

Activer ▾ Nom ⇅

---

Battery voltage

Signal Noise Ratio (SNR) ⚙️  
*Sensor signal noise ratio (SNR) value*

**1**   Received Signal Strength Indication (RSSI) ⚙️  
*Sensor received signal strength indication (RSSI) value*

Spreading Factor (SF) ⚙️  
*The value of the spreading factor for the lorawan sens*

**Frame counter** ⚙️  
*Number of uplinks as counted by the equipment*





## User console and UI

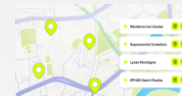
### Bulk edition of properties

Too many properties added to a gateway by mistake?


It is now possible to mass edit the properties of a single device or gateway to activate, deactivate or delete them through a new interface



The screenshot shows the user console for 'Thiers Primary School'. The main navigation bar includes 'Dashboards', 'Graphiques', 'Données live', 'Alarmes', 'Configuration', 'Archives', and 'Logs'. The 'Configuration' tab is active, and the 'Passerelles' sub-tab is selected. A search bar at the top right contains the text 'Rechercher une Box ou un équipement'. Below the navigation, there are buttons for '+ Ajouter une propriété' and 'Télécharger la configuration'. A table lists properties for a 'ModBus Gateway'. The table has columns for 'Activer', 'Nom', 'Lire/Écrire', 'Sync.', and 'Adresse'. The first row is 'Current transformer ratio (Ct)' with a checked checkbox, a toggle switch, and a dropdown menu. The 'Actions' dropdown menu is open, showing options: 'Activer', 'Désactiver', and 'Supprimer'. Three green circles with numbers 1, 2, and 3 are overlaid on the image, pointing to the 'Activer' checkbox, the 'Actions' dropdown, and the 'Activer' option in the dropdown menu, respectively.

Activer	Nom	Lire/Écrire	Sync.	Adresse
<input checked="" type="checkbox"/>	Schneider			
<input checked="" type="checkbox"/>	Current transformer ratio (Ct)	LOCAL	✓	0
<input checked="" type="checkbox"/>	Voltage transformer ratio (Pt)	LOCAL	✓	2
<input checked="" type="checkbox"/>	Svstem tvne:	LOCAL	✓	4



## User console and UI


Under the icon  to the right of your box name, you can see the number of properties counted in your subscription.

● Box demo Antoine  4G 

Dashboards Graph Live


Equipment Networks

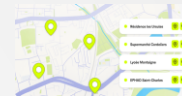
Add Equipment Group

Connection 

Organization: [Wattsense](#)  
Subscription: Box (Mid - ending 2023-01-25)  
Properties: 41/200

API Device Id: [moMFryac](#)  
Serial Number: [3a4c7c31b0c23844](#)  
Software: 5.10.11  
BSP: 5.6.0  
Hardware: 1.3

Copy all info 



## Other enhancements

In the same way you can edit a schedule for a Siemens RVL or Siemens Synco, it is now possible to edit a schedule in BACnet format.

Target	General Settings	Schedule
Priority	16	
Object type	REAL: 0x40 (64)	
Default value	18	

Monday	Slots	Start Time	Value	Default
	Slot 1	07 : 00	17	17

Download your equipment's configuration and properties in one click from the "Download" button on the Configuration screen.

Box demo Antoine 4G

Dashboards Graph Live data Alarms Configuration Archives Logs

Equipment Networks Connectors Gateways Routing

5 equipment, 51 properties

Add Equipment Group equipment Search for an equipment Filters Download



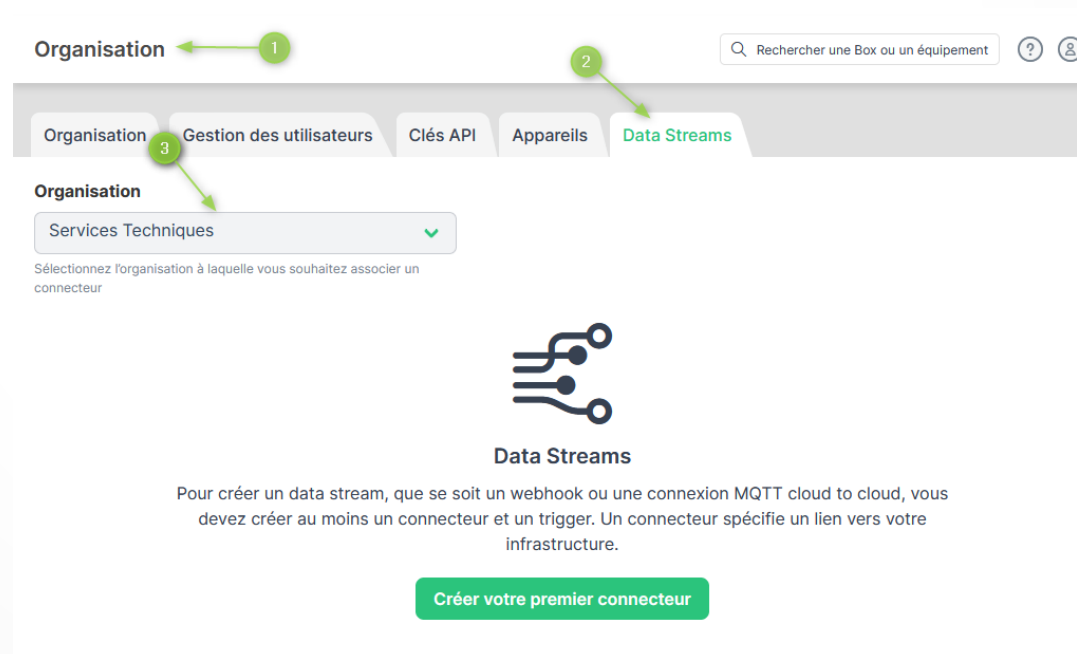
## Other enhancements

### Create webhooks in the console – Box only

To retrieve your property values or be alerted to an alarm directly in your tools, you can now create data streams from the console.

A data stream is a connection between Wattsense servers and your servers, which can be either a webhook or a cloud-to-cloud MQTT connection.

This feature was previously only available via API and is **now directly accessible from the console**.







We are delighted to bring these changes to you, starting with APPS **5.10.5**. Please contact our support team if your device is running an earlier version and needs to be upgraded.



# Next Steps

## 2023 Objectives for the R&D team excluding hardware

**Scalability** – Provide a global and robust solution to support the growth of our resellers, adapted to the diversity of cases encountered in the field

**Upgrade Equipment Database** – Turn the equipment database into a fully-fledged product

**Extend Core Features** – Do more than what is expected of a gateway and data availability, with differentiating functionalities

**Control** – Going beyond data visualisation to equipment control

## 2023 R&D Focus

It will be a **successful year** from a functional point of view **if** we make available by the end of this year, at least:

- **Virtual properties** available in the console for Boxes
- **Weekly schedules** available in the console
- First prototype produced and available in the office of the **BoxNG**

## 2023 Q3 outlook

- **Equipment database**
- **Virtual properties** with the calculation of consumptions as a first iteration
- **Weekly schedules** with a focus of occupied/not occupied and their relationships with alarms and HVAC controllers
- **Order management** improvements (cross departments effort)
- Roll out **core features** following the new architecture of the embedded: keep the latest values after reboot, redirect scaled values locally



Restricted use

## 2023 Q3 outlook – Zoom on virtual properties (Box/Tower only)

From a chart, see the differences instead of the consecutive values

The screenshot shows a software interface for configuring equipment. It includes a search bar for equipment, a list of properties to be monitored, and a settings panel on the right. The 'Interval' section in the settings panel is highlighted with a green border.

**Equipment**

Please select  Placeholder (optional)

Name

**Equipment name** ▾

- + Property name
- + Property name
- + Property name
- + Property name

**Settings** >

**Properties** ▾

- Frame counter  
Compteur R+2
- Frame counter  
Compteur R+3

**Interval** ▾

Select interval

None Hour Day Week

Month

Select properties ⓘ

Frame counter from  
Compteur R+2



Restricted use

## 2023 Q3 outlook – Zoom on virtual properties (Box/Tower only)

- Convert it to a new virtual property
- to store the values
- to use it in alarms

The screenshot displays a user interface for managing properties. On the right side, there is a 'Properties' panel with a list of items. The first item is 'Frame counter Compteur R+2' with a pink square icon and a close button (X). The second item is 'Frame counter Compteur R+3' with a blue square icon and a close button (X). Below these, a third item is partially visible: 'Frame counter from Compteur R+2'. A green rectangular box highlights this bottom-most entry. In the center of the interface, a dark button with white text reads 'Convert to virtual property'. Above this button, a search bar contains the text 'Placeholder (optional)'. The main area of the interface is currently blank, with a 'Name' field and an 'Equipment name' dropdown menu visible at the bottom. The 'Equipment' section at the top left shows a dropdown menu with 'Please select' and a search icon.



## 2023 Q3 outlook – Zoom on virtual properties (Box/Tower only)

With this first version, virtual property are 100% dedicated to the calculation of consumption

### Créer une propriété virtuelle

Que souhaitez-vous faire ?

Calculer une consommation ✓  Autre calcul

Nom

Text input / Item selected

Description (optional)

Placeholder (optional)

Propriété ⓘ

raw index (648\_compteurs d'ECS\_001) ×

La propriété virtuelle est rattachée au même équipement que la propriété sélectionnée.

Dernière valeur : xxxxKwh  
Recule : 21 mars 2023 - 14:31

Créer une autre propriété virtuelle après celle-ci





## 2023 Q3 outlook – Zoom on virtual properties (Box/Tower only)

The interval to calculate the consumption is hourly, daily, weekly or monthly based.

fréquence de remontée des données de l'intervalle de consommation

Quel intervalle de consommation ? ⓘ

<input checked="" type="checkbox"/> Horaire ✓	<input type="checkbox"/> Journalier
<input type="checkbox"/> Hebdomadaire	<input type="checkbox"/> Mensuel

Mise à l'échelle ?

Aperçu de la valeur de la propriété virtuelle

240

Unité

Text input / Item selected ▾

Tags (0) ▶

Avancé ▼

Slug

Créer une autre propriété virtuelle après celle-ci

## 2023 Q3 outlook – Zoom on virtual properties (Box/Tower only)

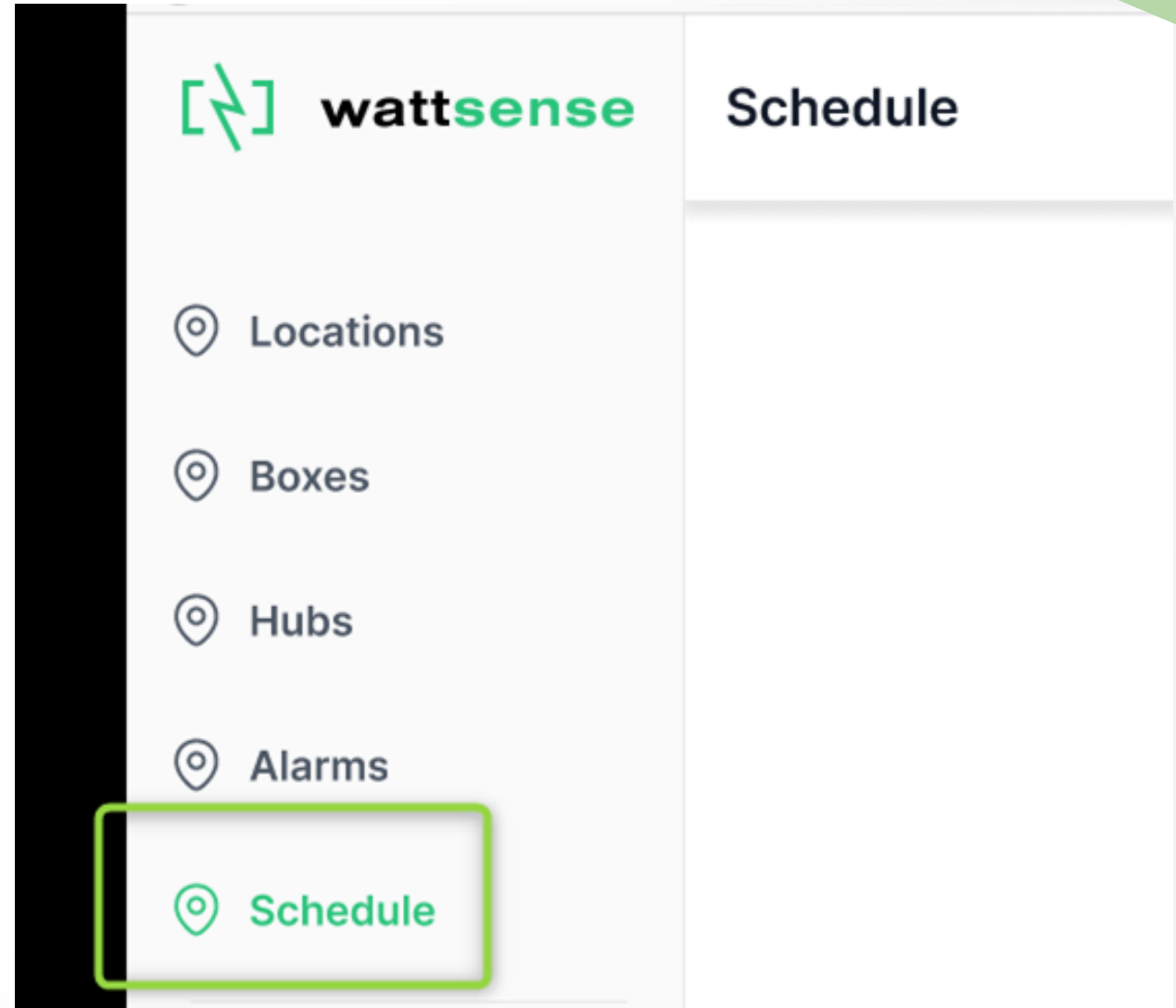
The number of virtual properties is limited to 10% of the total number of properties available in your subscription

The screenshot shows the 'Configuration' tab for 'Ibis Perrache' with the 'Propriétés virtuelles' sub-tab selected. A green box highlights the 'Propriétés virtuelles' tab. A light blue information box states: 'Vous pouvez créer jusqu'à 10 propriétés virtuelles (10% des points autorisés dans votre abonnement). Retrouvez le suivi de vos points sous le "i" à droite du nom de votre box.' Below this is a green button 'Créer une propriété virtuelle' and a search bar 'Rechercher par nom'. A table lists two virtual properties:

Nom	Propriété utilisée	Intervalle	Valeur en cours	
Index compteur étage 1 hora	raw index (648_compteurs d'ECS_001)	Horaire	1245 KWh	
Index compteur étage 1 men	raw index (648_compteurs d'ECS_001)	Mensuel	✗	

## 2023 Q3 outlook – Zoom on weekly schedules (Box/Tower only)

New schedule main menu item for a cross boxes availability



Testers wanted



## 2023 Q3 outlook – Zoom on weekly schedules (Box/Tower only)

Create a weekly schedule that will repeat itself and show when a building is occupied/unoccupied

### Créer un planning

**Nom**

**Description (optional)**

**Couleur du planing**

**Indiquez les créneaux d'occupation**

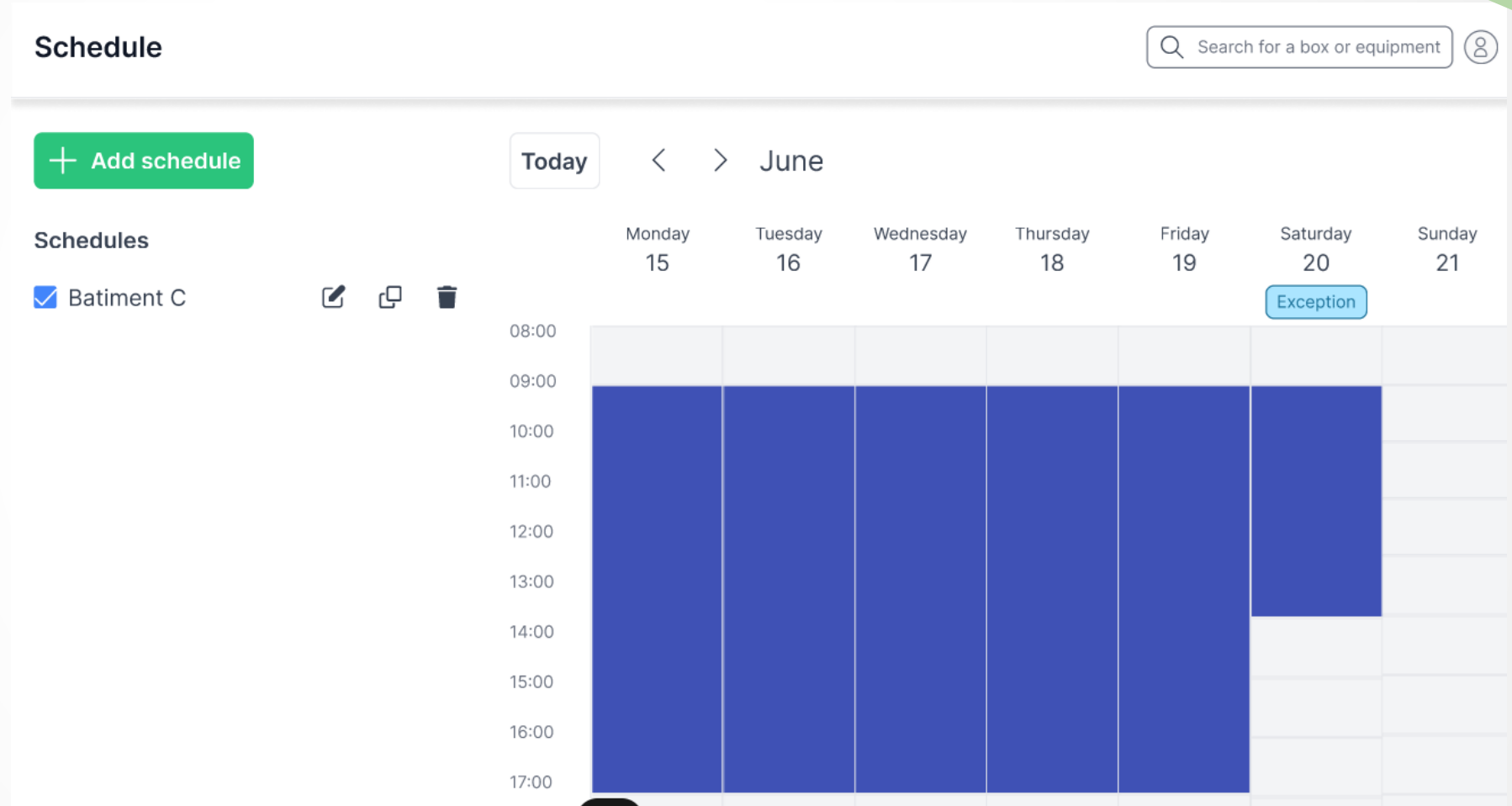
<input checked="" type="checkbox"/> Lundi	09:00	to	17:00	–	+	Apply to ▾
---	-------	----	-------	---	---	------------



Restricted use

# 2023 Q3 outlook – Zoom on weekly schedules (Box/Tower only)

Visualize the schedule



Testers wanted



## 2023 Q3 outlook – Zoom on weekly schedules (Box/Tower only)

Use the schedule in the configuration of an alarm to add new conditions

**Définir les seuils**  
Indiquez les seuils d'alarme pour chaque type de créneau. Si aucun seuil n'est indiqué pour un type de créneau, l'alarme sera inactive pour ce type.

Créneaux occupés		Créneaux inoccupés	
Plage	Sévérité	Plage	Sévérité
<input type="text" value="0"/> - <input type="text" value="17"/>	Critique <input type="button" value="v"/>	<input type="text" value="0"/> - <input type="text" value="17"/>	Critique <input type="button" value="v"/>
Appliquer aux créneaux [inoccupés] <input type="button" value="c"/>		Appliquer aux créneaux [inoccupés] <input type="button" value="c"/>	

**Nombre d'occurrences pour déclencher une alerte** ⓘ

## 2023 Q4 outlook

- Easy **automation**
- Update properties configuration in **bulk**
- **Order management** improvements (cross departments effort)
- Continue the roll out of **core features**



# Thank you