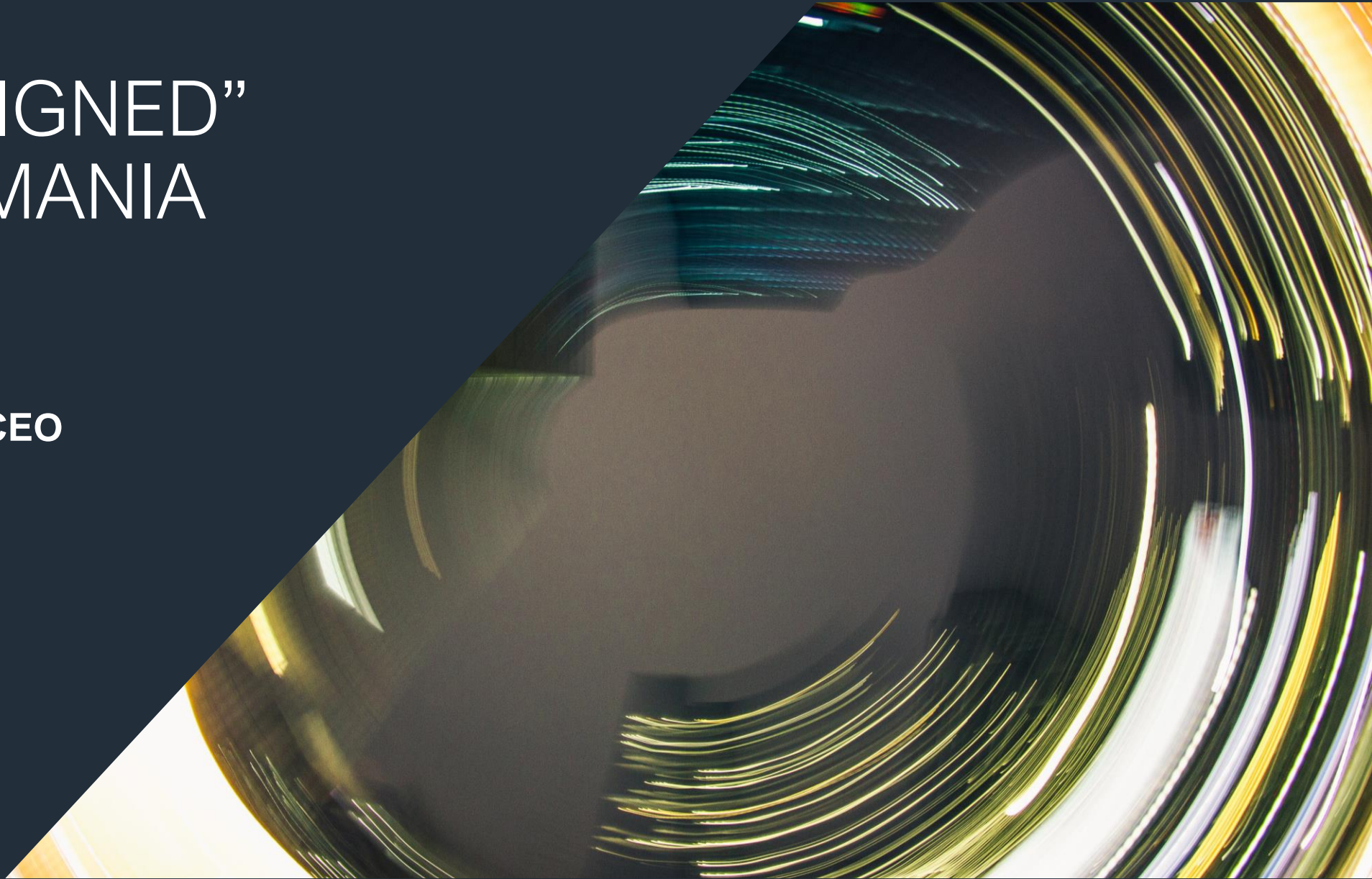




# “WELL DESIGNED” DRS IN ROMANIA

6<sup>th</sup> July 2022

Patrick Wiedemann, CEO

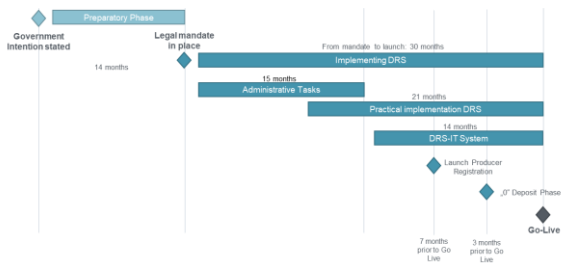
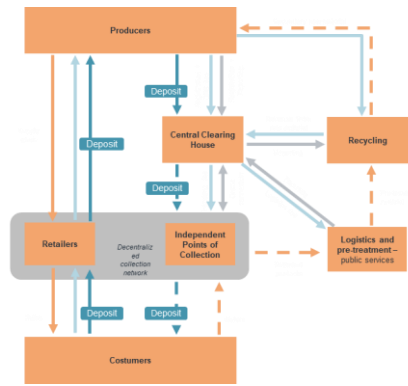


●●●  
RLG CORE SERVICE AREAS

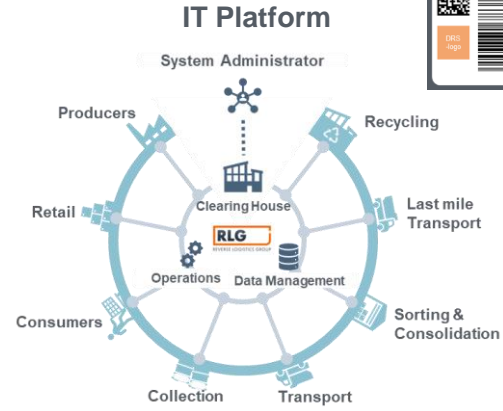


# WE OFFER SERVICES ACROSS THE DRS VALUE-CHAIN

## Consulting & System Design



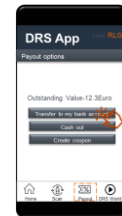
## Modular DRS IT System



### Product Data Management



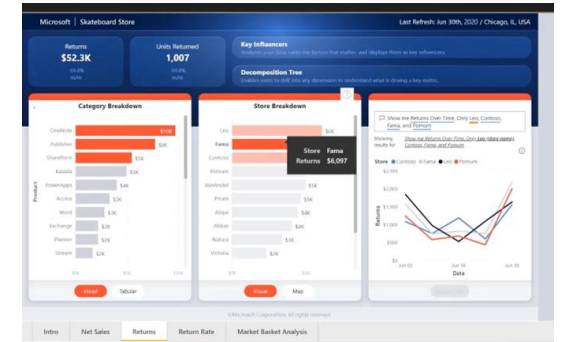
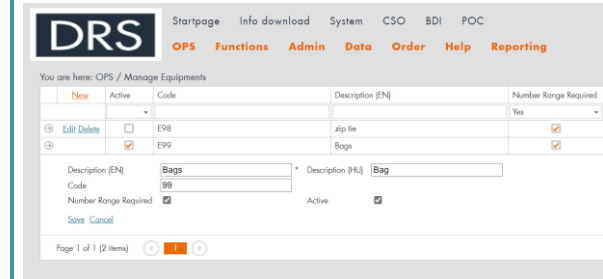
### Innovative Payment Methods



## Convenient and Flexible Collection



## DRS Operation





# RLG IS PART OF RECONOMY GROUP

We're an innovative, technology-led company, providing services the world over and through three main verticals



**RECYCLE**

Tech-enabled total waste and resource management services

01

**COMPLY**

Global environmental compliance and sustainability consultancy

02

**REUSE**

Sustainable omni-channel product returns and intelligent logistics

03

Construction

Business & Industry

The Reconomy Group overall is delivering revenues of around **EUR 1 billion with strong growth and employs globally over 2,500 employees**

Creating a truly sustainable world



# OUR DIVISION HAS A TRULY GLOBAL FOOTPRINT

Reconomy Compliance serves customers in more than 80 countries through 23 regional hubs





# EXPERIENCED PARTNER IN DRS AND EPR SCHEMES IMPLEMENTATION – SELECTED EXAMPLES



**CIRCULAR**  
MATERIALS

## IT Platform provider for world-class PRO in Canada

- RLG designed, implemented and operates the portal where Producers register with CM and report volumes of products put on the market.
- The PRO includes the biggest producers in the market and is a model for other PROs in Canada



## End-to-End DRS Technology Setup in Scotland

- Circularity Scotland selected RLG to set up an IT infrastructure for a DRS in Scotland that will be live by 2023
- RLG is delivering a fully integrated, end-to-end DRS IT system that is efficient, flexible, inclusive and future-proof



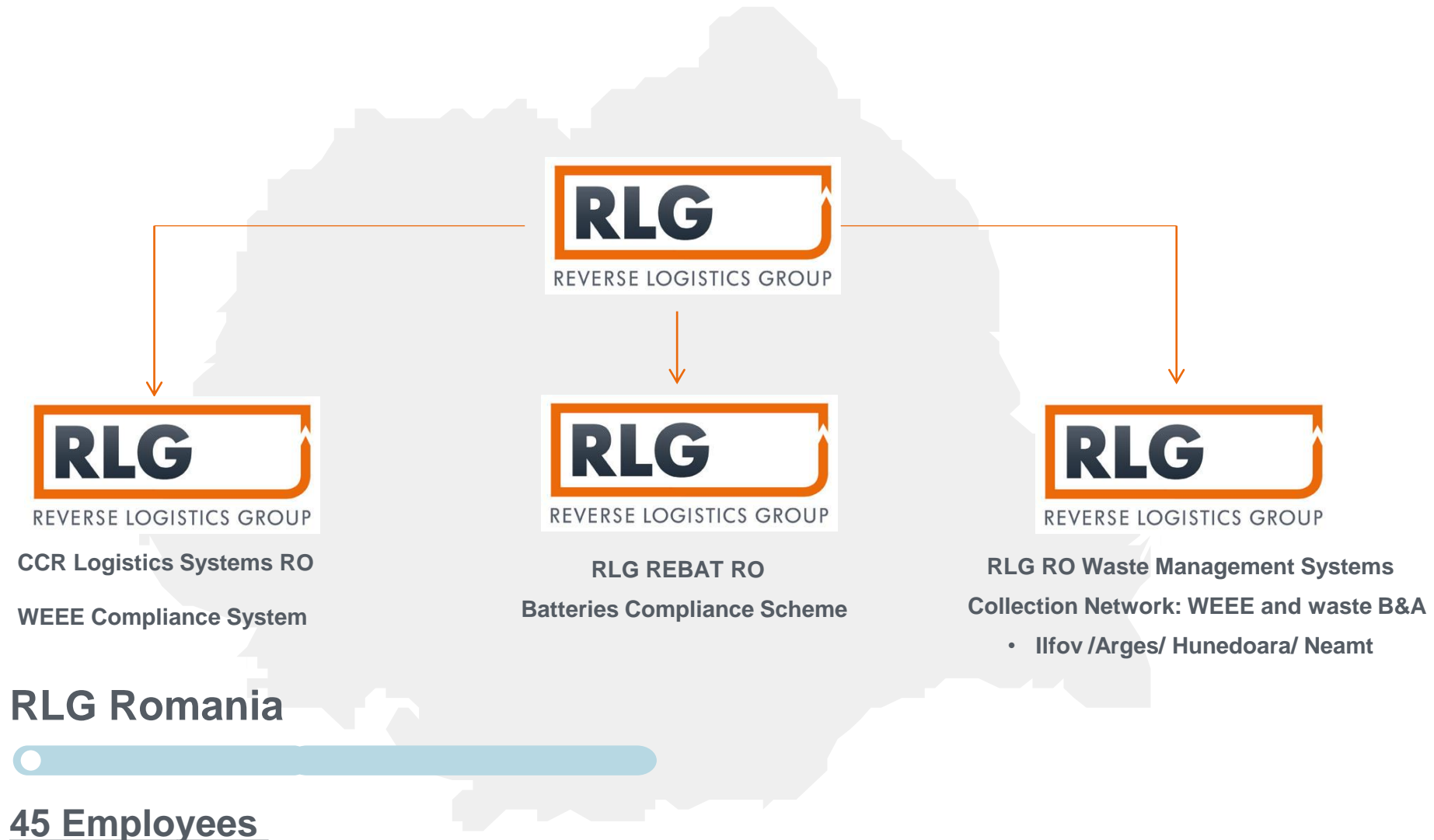
## Tech-enabled Leading PRO in India

- Our company manages a total of 32 PROs globally across different kinds of local landscape.
- RLG was able to set up the PRO India from scratch (with the challenges of the large geography and a big informal sector)

**+ Team of  
DRS and  
EPR  
experts  
Globally  
and in  
Romania**



# RLG HAS BEEN PRESENT IN ROMANIA SINCE 2008



## RLG Romania



45 Employees



# 02

## DRS Situation in Romania



## System Configuration



- According to the Romania legislation the system shall run on **EAN code**
- **Challenging timelines** to implement the system.

## Romanian Retail Market

- According to Romania legislation, only retailers **>200 sqm are mandatory collection** points
- There are **>80,000 mini markets** in the country (vs a total of 3,500 supermarkets)
- **Mini markets** shall be integrated into collection network as they cover **~50% of the market<sup>1</sup>**
- Consumer convenience

## Expected system inefficiencies

- **Logistics (manual collection)**
- **Limited use cases and costs for RVMs**
- **Opportunities for fraudulent activities**

# FRAUD WILL POTENTIALLY BECOME A COST AND SYSTEM INEFFICIENCY

## Examples:

### Fraud Impact on traditional DRS

#### Impact on DRS system

- Estimated damage in the German DRS system: € 100 million (for 2.5 years).<sup>1</sup>
- Approx. 1 % of total DRS-products in the market during the period.<sup>2</sup>

#### Fraud methods in traditional DRS systems:

- Returning the same item several times
- Allow fake barcode stickers on non-deposit bearing containers
- Allow pay out deposits on non-deposit bearing containers and intl. Barcodes
- Possibility of hacking RVM machines



#### Printing fake EAN codes

Sweden case returning + 1500 non-deposit containers.<sup>3</sup>

#### Returning the same bottle multiple times

German case extracting € 50,000 with one bottle.<sup>4</sup>



Source: RLG Knowledge/ Süddeutsche (2019): <https://www.sueddeutsche.de/panorama/pfandbetrug-urteil-kriminalitaet-1.4403519>

<sup>1,2</sup> No officially approved number but based on studies and confirmed by RLG specialists to be a realistic number while subject to uncertainty due to assumptions made

<sup>3</sup> Pantbedragare åtalas för flera fall av fusk (ystadsallehanda.se)

<sup>4</sup> Man cheats recycling machine out of €44k with one bottle (thelocal.de)



## ESTIMATED SYSTEM INEFFICIENCY FOR ROMANIA DUE TO FRAUD

Fraud Cost Risk Romania	
<b>PtM - # of containers / year</b>	<b>6-8 billion</b>
Deposit fee	€ 10 cents (0,50 RON)
Annual deposit volume	€ 600,000,000 – 800,000,000
<b>Fraud Level</b>	<b>Risk amount</b>
0,5 %	€ 3,000,000 – 4,000,000
<b>1 %</b>	<b>€ 6,000,000 – 8,000,000</b>
<b>2 %</b>	<b>€ 12,000,000 – 16,000,000</b>
3 %	€ 18,000,000 – 24,000,000
5 %	€ 30,000,000 – 40,000,000
10 %	€ 60,000,000 – 80,000,000

} **Conservative assumption of fraud level in Romania based on the experience from other countries.**

Fraud Risk depends on the characteristics of the local market: importance of mini-market, % manual returns, deposit value, demographic conditions, etc.



# Journey of DRS Systems „Back to the future“

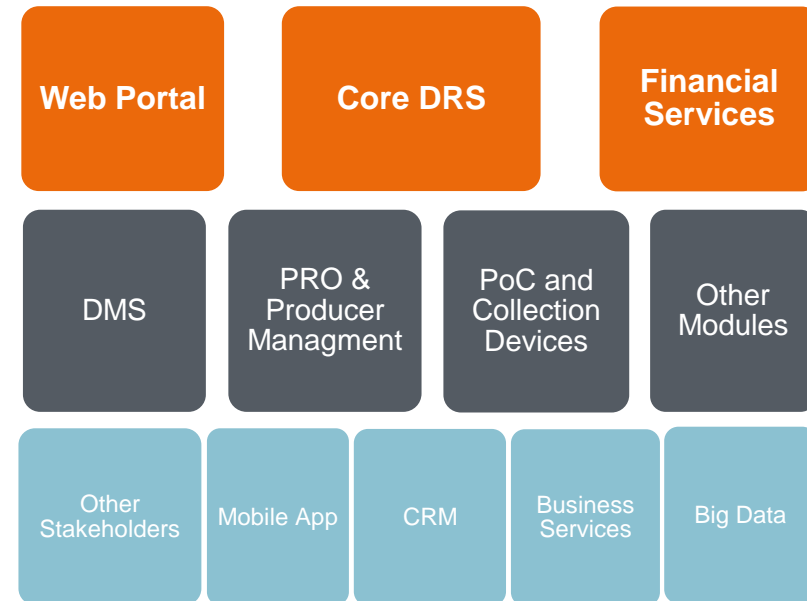


# FROM TODAY TO FUTURE READY „WELL DESIGNED“ DRS SOLUTION

## Flexible collection methodologies: Big Retail, Mini Market and Beyond Retail



## Modular solution covering every process step





# PROVIDING TECHNOLOGY AND OPERATIONAL IMPROVEMENTS

EAN DRS		Hybrid DRS		DM DRS	
	<b>Marking Components</b>	<b>Included?</b>		<b>Marking Components</b>	<b>Included?</b>
	EAN code	yes		EAN code	yes
	DRS Logo	Optional (and can be infrared or printing)		DRS Logo	Optional (and can be infrared or printing)
	Data matrix code	no		Data matrix code	yes

Enabling a transition path to full serialization



# FOR EXAMPLE: ADDRESSING FRAUD

RLG technical solution for addressing fraud

## RLG Solution for reducing fraud with traditional EAN coding

- **Business Analytics**
  - Microsoft Power BI in combination with SSRS for analysis and reporting.
- **Fraud Management**
  - Data monitoring and analysis
    - Identifying non-standard behaviors and detecting patterns.
  - IoT HUB
    - Identifying and addressing fraud in real-time thanks to Azure Analytics Services capabilities.

## Option: SMART DRS to prevent fraud

- **Unique Code** ensures product Genuity and customer protection
- **Zero fraud (>99%)** is only possible with a **2-factor verification** (individual code and security marking)
- **Codes cannot be printed and scanned to claim the refund;** they are only valid once they are registered put into market
- Unique coding assure **bottles can only be returned once**
- Provides a **security layer against a potential hacker:** Fraud requires not only data manipulation, but also physically stealing containers with a valid security marking.
- The **deposit is linked to a physical item**, not to a label.
- Once a bad practice is detected, **the code can be traced back.**

# OPERATIONAL EXCELLENCE: MINI MARKET SOLUTIONS 1/2

## RLG Mini Market solutions - Handheld & Mobile App

### Handheld Device



- High-quality and speed camera-based scanner
- No development effort needed
- Real-time product verification against data base
- Optionally with receipt / voucher printer
- Optional possibility to crash containers after scanning

### B2B Mobile App



- Adapted to every environment
- Real-time product verification against data base
- App customization needed
- Optional possibility to crash containers after scanning

### Improvement areas:

- Validation at return point, not at counting centre
- Compaction possibilities
- Logistics cost reduction





# OPERATIONAL EXCELLENCE: MINI MARKET SOLUTIONS 2/2



## Simplified RVMs

### RVM 100



### RVM 200



### RVM 1000



Capacity 250 PET, 300 cans

Footprint 0,55 m2

Capacity 250 PET, 350 cans

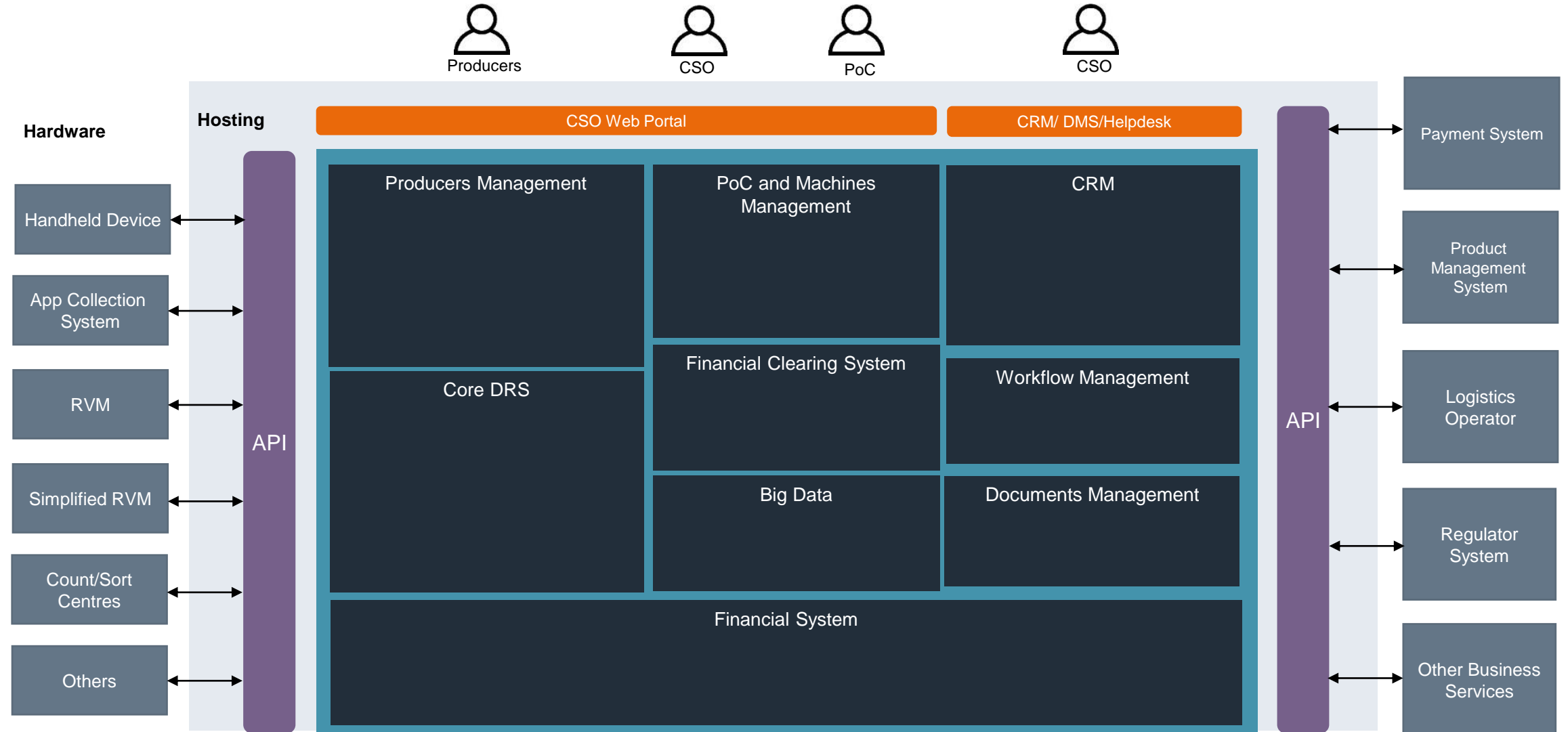
Footprint 0,82 m2

Capacity 300 glass

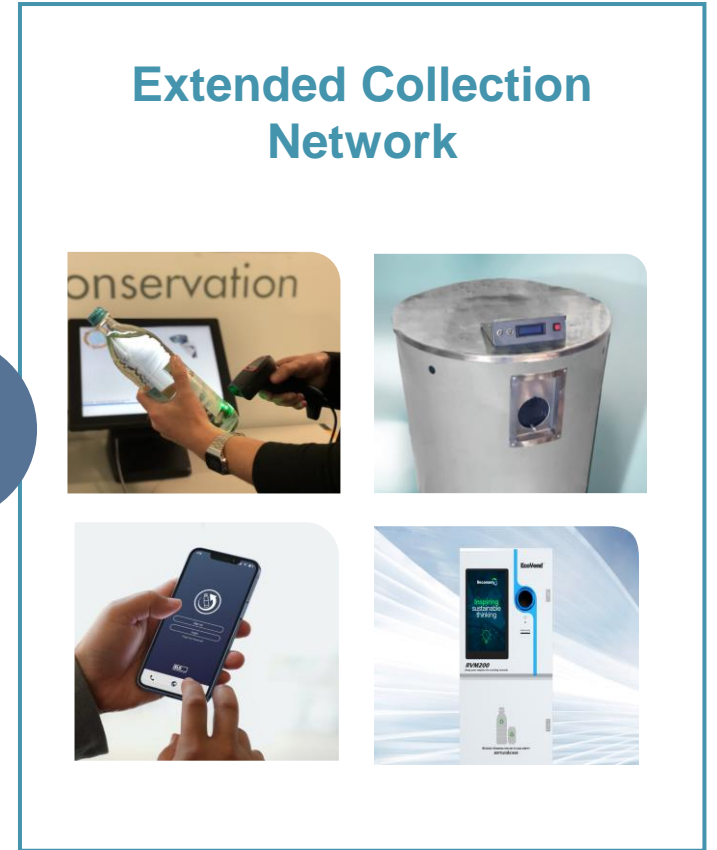
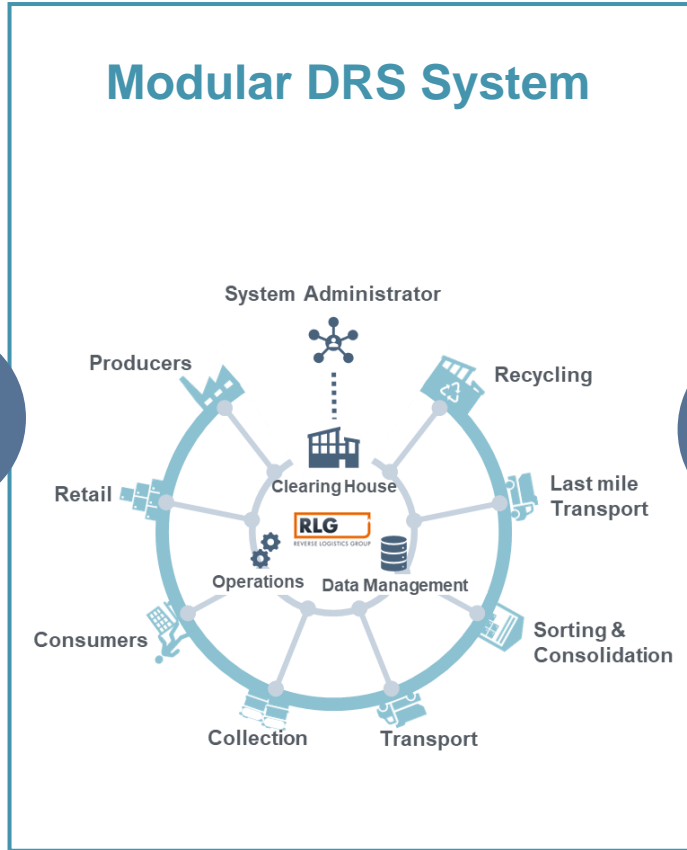
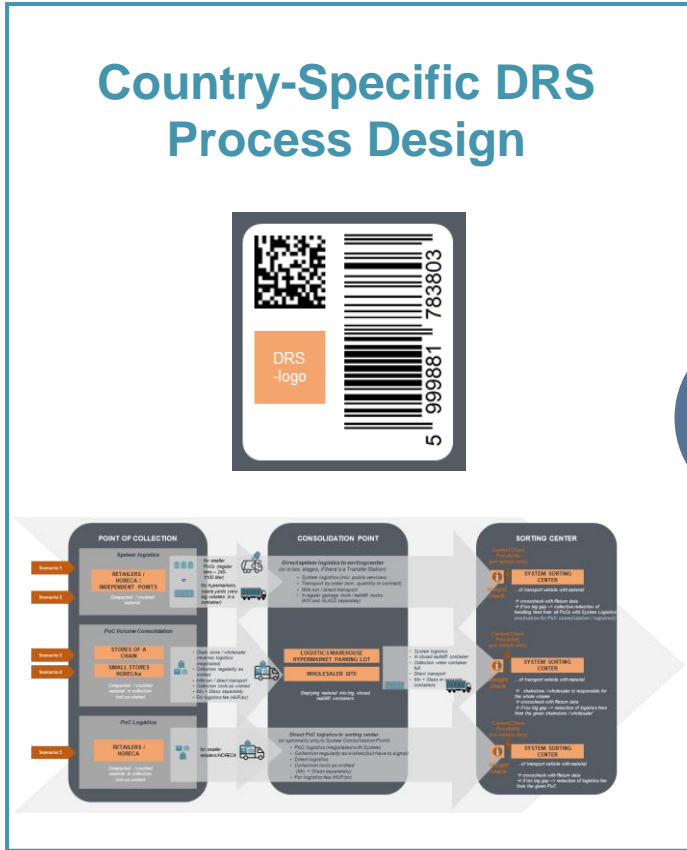
Footprint 0,71 m2



# MODULAR AND FUTURE READY SYSTEM ARCHITECTURE



# RLG SYSTEM APPROACH

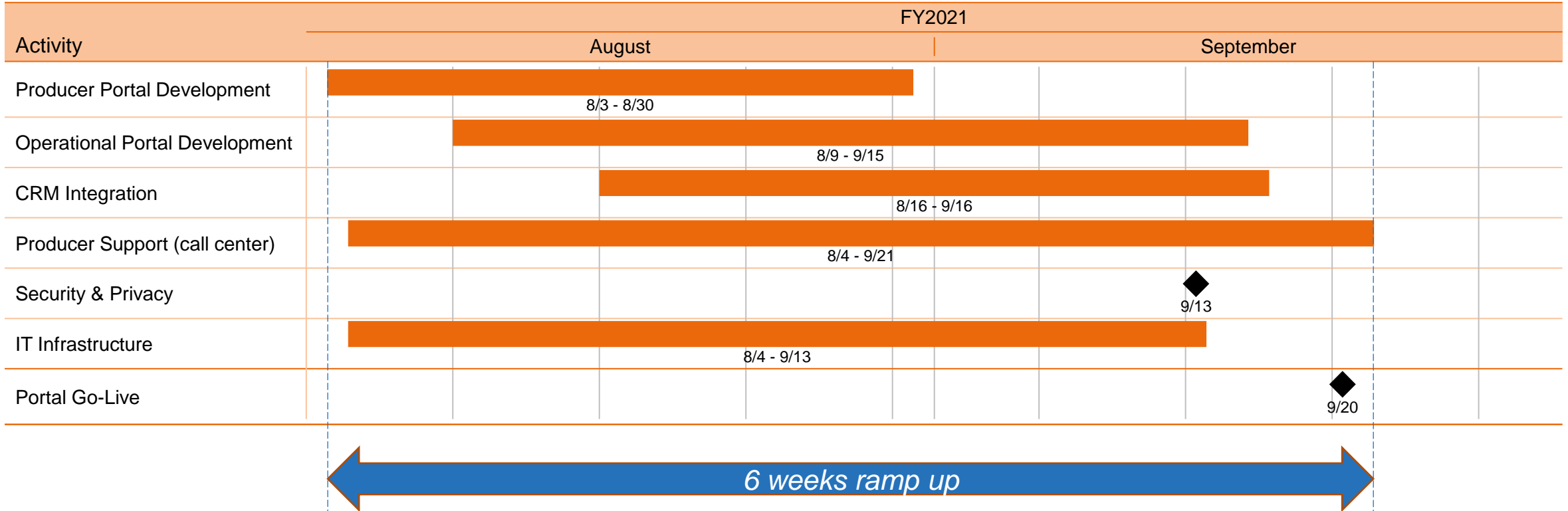




# RLG SUPPORTED CMO WITH FAST IMPLEMENTATION



## Producer Portal implementation timeline





Suggest to design it  
„well“ today or...  
  
live with the  
consequences





Thank you for your attention!

*Return to Value*



REVERSE LOGISTICS GROUP

