

# Digitalization

Optimizing Program Efficiency and User Experience  
through Information Management

November 28, 2019

RIGK Forum - Wiesbaden, Germany



# What is Digitalization?

“**Digitalization** is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities,”

(Gartner, 2019)

+

Increase efficiency and decrease costs

# About Cleanfarms

## Our Vision:

Cleanfarms contributes to a healthier environment and a sustainable future by recovering and recycling agricultural and related industry plastics, packaging and products.

## Approach:





# Cleanfarms Programs



**pesticide  
containers**

**1989**



**obsolete  
pesticides**

**1998**



**pesticide  
bags**

**2006**

**cleanfarms**



**2009**

**obsolete animal  
health meds.**



**2013**

**fertilizer  
containers**



**bulk pesticide  
containers**

**2015**

**2016**

**seed  
bags**



**bulk fertilizer  
containers**

**2018**

**grain  
bags (SK)**



**fertilizer  
super sacks (QC)**



# Managing Ag Waste Across Canada



4

Offices

14

Contractors

1600+

Collection Sites

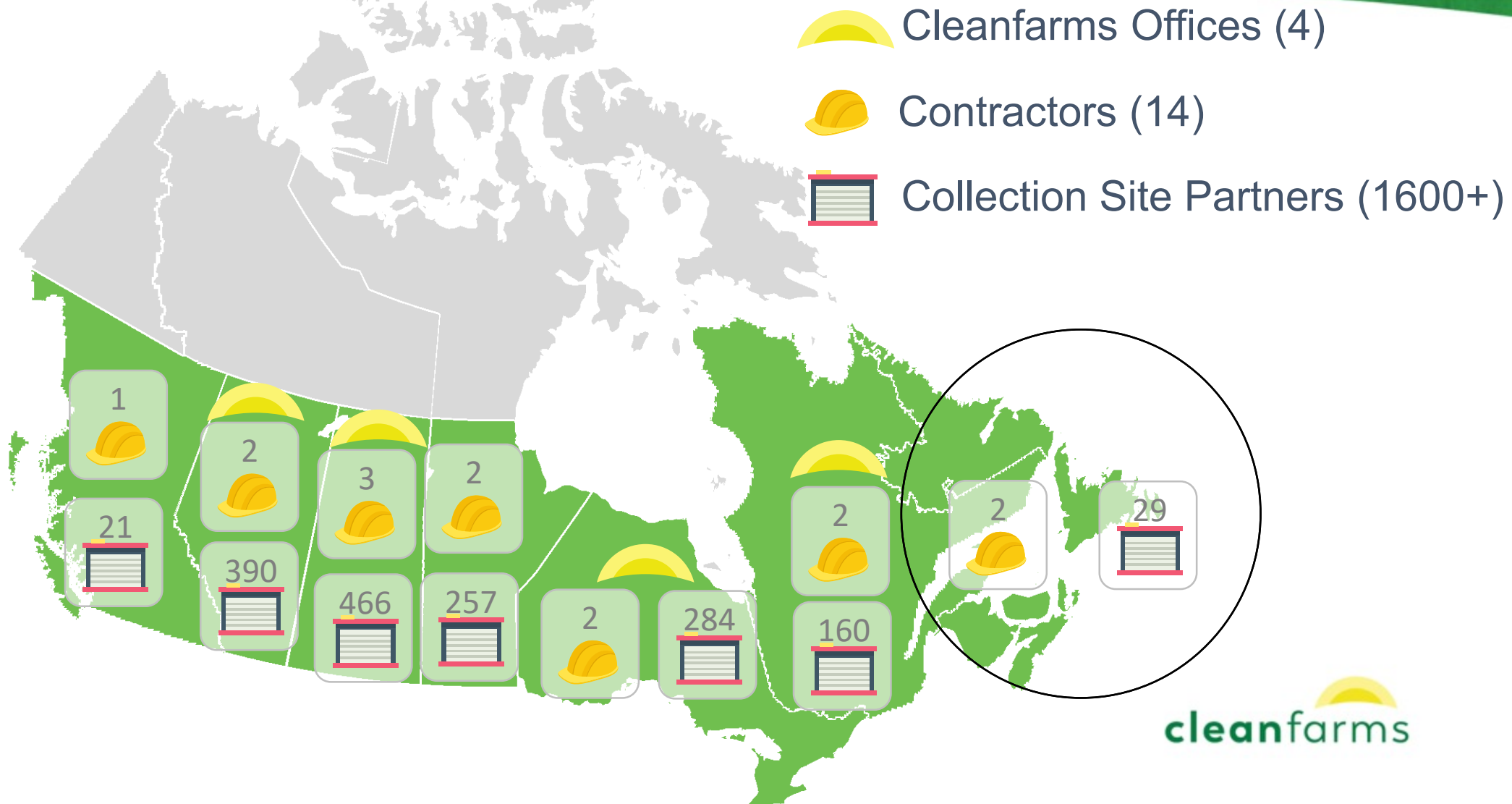
200,000

Farmers

  
cleanfarms



# Operations Coast-to-Coast



# Complex Information & Data Management

- Member sales survey reporting
  - Sales data from 60 member organizations for over 20 product/size categories
  - Tracking completed and pending surveys
  - Applying levies/eco-modulation of fees
  - Consolidation of data and reporting
  - Historical analysis and forecasting
  - Data security and minimizing user error

# Complex Information & Data Management

- Pickup request management and service standard enforcement
  - 4,700 pickup requests each year
  - Shipping documentation for transportation of regulated goods
  - Route planning for contractors
  - Tracking overdue requests
  - Setting service standard by region



# Complex Information & Data Management

- Plastic inventory and sales tracking
  - On-hand plastic inventory tracking for 10+ plastic types across 14 warehouses
  - Purchase orders from customers
  - Shipping and weight verification
  - Invoicing

# Complex Information & Data Management

- Continuous program improvement, data analysis and KPI reporting
  - Tracking collection rates by province, by retailer
  - Identifying high and low volume collection periods
  - Sustainability data for member companies/retail head offices
  - Distribution of communications materials and data to collection sites and contractors

# Why? Drive to digitalization

- Growth in programs – more data to manage
- Demand for information – retailers, government, members
- Limited staff – automation and efficiencies are required
- Service standard improvements – poor service from collection contractors



# From where we started...

	A	B	C	D	E	F	G	H
1	<b>CleanFARMS Inc.</b>							
3	Summary of Sales of Pest Control Products							
5	<b>GREATER THAN 1 L but LESS THAN 23 L CONTAINERS</b>							
7	Category	PLASTIC ONE-TRIP CONTAINERS (Greater than 1 litres but less than 23 litres )						
8	D	Non-seed Treatment Containers						
9		Size in Litres	Number of Containers		Avg Weight	Total Weight		
10	1	1	3,492		0.500	1,746.00		
11	2	1.22	2,690		0.060	161.40		
12	3	1.5	4,844		0.163	787.15		
13	4	1.78	8,856		0.300	2,656.80		
14	5	1.84	2,496		0.050	124.80		
15	6	2	78,193		0.262	20,486.57		
16	7	2.2	59,032		0.120	7,083.84		
17	8	2.26	4,013		0.300	1,203.90		
18	9	2.4	61,996		0.300	18,598.80		
19	10	2.5	14,109		0.213	3,009.92		
20	11	3	76,687		0.225	17,254.58		
21	12	3.1	9,504		0.133	1,264.03		
22	13	3.2	2,590		0.153	396.27		
23	14	3.78	118,164		0.200	23,680.07		
24	15	3.785	9,386		0.300	2,815.80		
25	16	3.79	7,484		0.585	4,378.14		
26	17	4	162,408		0.255	41,367.64		
27	18	4.45	2,976		0.060	178.56		
28	19	4.73	2,799		0.300	839.70		

## ONTARIO PESTICIDE CONTAINER COLLECTION PROGRAM

PLEASE COMPLETE AND FAX TO:

**1-866-876-1296**

DATE: April 8/2019

SITE NAME: SETTERINGTON'S FERTILIZER

STREET ADDRESS: 22066 Zim RD TOWN WHEATLEY

TELEPHONE: 519-825-4241

A) DELIVER 10 EMPTY CLEAR PLASTIC BAGS (30 BAGS PER ROLL)

B) PICK-UP \_\_\_\_\_ BAGS TRIPLE RINSED PLASTIC PESTICIDE CONTAINERS (UP TO 20L SIZE)

C) PICK-UP \_\_\_\_\_ BAGS OF TRIPLE RINSED METAL PESTICIDE CONTAINERS (UP TO 20L SIZE)

**NOTE:** Drivers are instructed to only pickup bags if

- CAPS AND LABELS REMOVED
- CONTAINERS ARE CLEAN AND TRIPLE RINSED
- METAL PARTS REMOVED FROM PLASTIC CONTAINER (SUCH AS HANDLES ON PAILS)

DELIVER TO: Access **ACCESS DISTRIBUTION**  
789 DONNYBROOK DRIVE  
DORCHESTER, ONTARIO N0L 1G5

SITE SIGNATURE: [Signature]

DRIVER: \_\_\_\_\_ DATE: \_\_\_\_\_

# To today – Modulated information management

- Cloud-based online modules connecting Cleanfarms administrators, members, contractors, collection sites and recyclers
- Real-time analytics
- Customized reports and data summaries
- Mobile compatibility
- Automated shipping documents
- Customer Relationship Management (CRM) functionality

# To today – Modulated information management

## Member Sales Survey Module

Dashboard analytics

Simplified reporting process

Customized reporting

Cleanfarms

Shane Hedderson

cleanfarms

Sales Survey with Detailed Levy Report

Year

2018

Sales Survey Status

Pending

Member : RIGK Demo

>23L (Non-seed treatment, Deposit)

	Total containers excluding Quebec (a)	Total containers for Quebec (b)	Total containers (a + b)	Size (L)	Weight of each empty container in Kgs	Total weight of multi-trip empty containers	Equivalent Packages reported for levy	Obs.Levy \$	Pkg.Levy \$	NDB Levy \$
100,000.00		2,000.00	102,000.00	5	0.18	18,360.00	51,000.00	3,774.00	0.00	0.00
200,000.00		4,000.00	204,000.00	10	0.36	73,440.00	204,000.00	15,096.00	0.00	0.00
300,000.00		6,000.00	306,000.00	20	0.72	220,320.00	612,000.00	45,288.00	0.00	0.00
<b>total</b>	<b>600000</b>	<b>12000</b>	<b>612000</b>				<b>867000</b>	<b>64158</b>	<b>0</b>	<b>0</b>

>550L (Non-seed treatment, Non-deposit)

	Total containers excluding Quebec (a)	Total containers for Quebec (b)	Total containers (a + b)	Size (L)	Weight of each empty container in Kgs	Total weight of one-trip empty containers	Equivalent Packages reported for levy	Obs.Levy \$	Pkg.Levy \$	NDB Levy \$
1.00		4.00	5.00	100	0.00	0.00	50.00	3.70	0.00	183.70
<b>total</b>	<b>1.00</b>	<b>4.00</b>	<b>5.00</b>			<b>0.00</b>	<b>50.00</b>	<b>3.70</b>	<b>0.00</b>	<b>183.70</b>

Levy Type	# of packages	Total \$ amount
Obsolete	64,161.70	\$ 867,050.00
Container	0.00	\$ 0.00
NDB Levy	183.70	\$ 50.00
<b>Total</b>	<b>64,345.40</b>	<b>\$ 867,100.00</b>

UAN, AMS, other WC

23.1 - 225L (Non-deposit UAN, AMS, Other WC)

WYOMING

NEBRASKA

IOWA

Chicago

NEW YORK

MA

CTRI



# Modulated information management

## Pickup Request Module

Contractor request tracking

Simple pickup request process for collection sites

Mobile compatibility

Quality control and tracking

The screenshot displays the Cleanfarms mobile application interface. On the left is a dark sidebar with a 'Cleanfarms' logo and a list of menu items: 'COLLECTION SITE', 'Pickup Requests' (highlighted with a red notification badge), 'User Accounts', and 'Reports'. The main content area shows a modal window titled 'Upload Photos - Load 1'. This modal contains instructions: 'Click on the cards below to upload photos or on the eye icons to open your camera'. It features four photo upload slots for 'Truck', 'Seal', 'Container', and 'Number of Rolls On Truck'. The 'Seal' and 'Container' sections include text input fields for 'Seal Number \*' (containing '123') and 'Container Number \*' (containing '456'). The 'Number of Rolls On Truck' section has a text input field containing '110'. At the bottom of the modal are 'Cancel' and 'Save' buttons. In the background, a table is partially visible with columns for 'Shipper', 'Recycler', '# Rolls on Truck', and 'Action'. The user 'Tamara Shields' is logged in, as indicated by the top right header.

Shipper	Recycler
Ghost Transport	Blue bin

# Rolls on Truck	Action
110	Edit

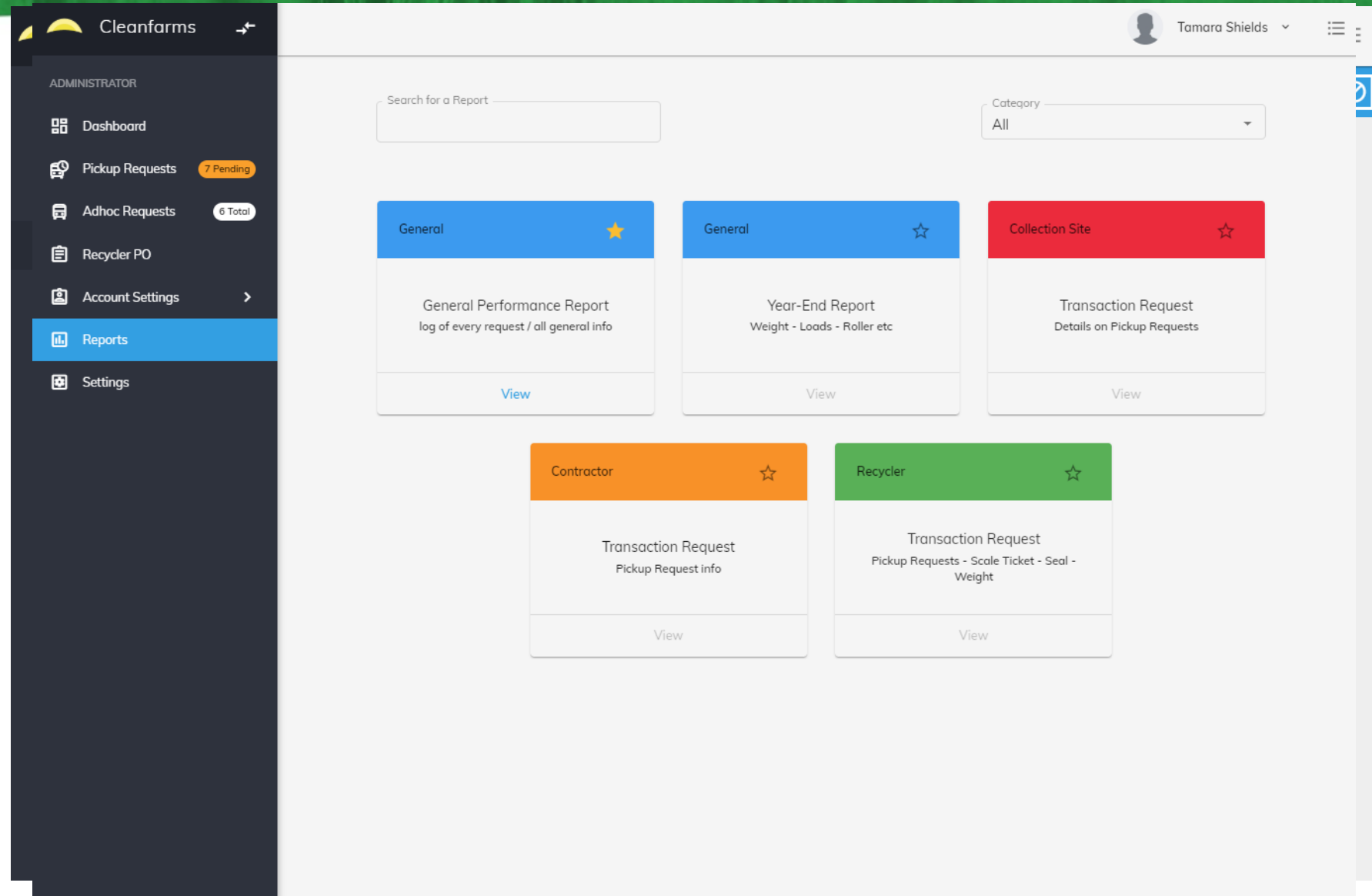
# Modulated information management

## Administrator Module

Operational oversight

Customer data management

Customized reporting



# Timeline

**2012** – RFQ for software provider

**2013** – Hired developer (Enable Infotech) for custom software development

**2013** – development and initial launch of Version 1.0

**2014 to 2018** – additional development, modification to keep up with growth

**2019** – Version 2.0 redevelopment

**2020** – Version 2.0 launch



# What have we accomplished?

- New Revenue:
  - Elimination of free-riders; increased membership
  - Seamless integration of new material streams
- Value-Producing Opportunities
  - Full oversight of contractor performance; improved levels of service
    - From 60% overdue requests to zero in 12 months
- Increased efficiency and Decreased Costs
  - Significantly reduced administrative burden and increasing data accuracy
    - 1 staff member managing all sales reporting (4x growth since 2010)
    - 2 staff members managing interactions with 1,600 collection sites

# Thank You

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