GREAT LAKES
BUSINESS INTELLIGENCE & BIG DATA SUMMIT

Thursday, March 7, 2019 | Metro Detroit

Welcome!

The presentation will begin shortly

@GreatLakesBI

#GreatLakesBI19

Hosted by:

WAREHOUSE ANALYTICS FOR THE SUPPLY CHAIN:

THE PHYSICAL WAREHOUSE - DIGITAL EVOLUTION 2019+

Joe Beydoun

Joe Beydoun

Vice President of Technology
Lipari Foods, LLC.

- Joe Beydoun is the Vice President of Technology for Lipari Foods, a wholesale food distributor in the Midwest with over 1,000 employees.
- He has expertise in warehousing, transportation and analytics systems. He is a member of the leadership team at Lipari Foods and participates in the operational management and strategic planning of the company.

LIPARI

Information Builders

2016 IBI Summit International User Conference CEO Winner

By Gerald Cohen | June 27, 2016

Last but certainly not least is our third winner, Joe Beydoun of Lipari Foods. Lipari Foods is a regional wholesale food distributor managing a wide range of specialty foods, grocery, and "grab-and-go" products across the Midwest. Using WebFOCUS, the company developed a self-service reporting environment that gives employees and customers access to transactional data. The self-service business intelligence environment provides visibility into every step of the supply and distribution process, enabling Lipari to streamline processes, ensure the timely delivery of high-quality products, and eliminate waste in the supply chain.

Submitted by Joe Beydoun, Lipari Foods

LIPARI

Information Builders

2017 IBI Summit International User Conference CEO Winner

Show Me the Winners

Information Builders

Lipari Foods - Joe Beydoun

Key Take Aways:

- Dashboards delivered to the right audience
- The focus on Warehouse analytics.
- Can Big Data exist in your Supply Chain?
- How to take advantage of IOT.
- No Guts! We need real data to make decisions
- TVs, iPads, Smartphones and wearables, oh, and laptops/desktops too. Visualizations can go anywhere anytime

THE DIGITAL WAREHOUSE – FROM REAL TIME TO TRENDS, VISUAL ANALYTICS TO MASTER YOUR SUPPLY CHAIN

- This presentation will be focusing on different tools and technologies to deliver rich content at the right time to the right people who will help drive decisions in your Supply Chain. With the ever-increasing data collection technologies, there is a critical need to create easy to use visualizations to pinpoint inefficiencies. This presentation will also cover the different platforms to deliver content to users.

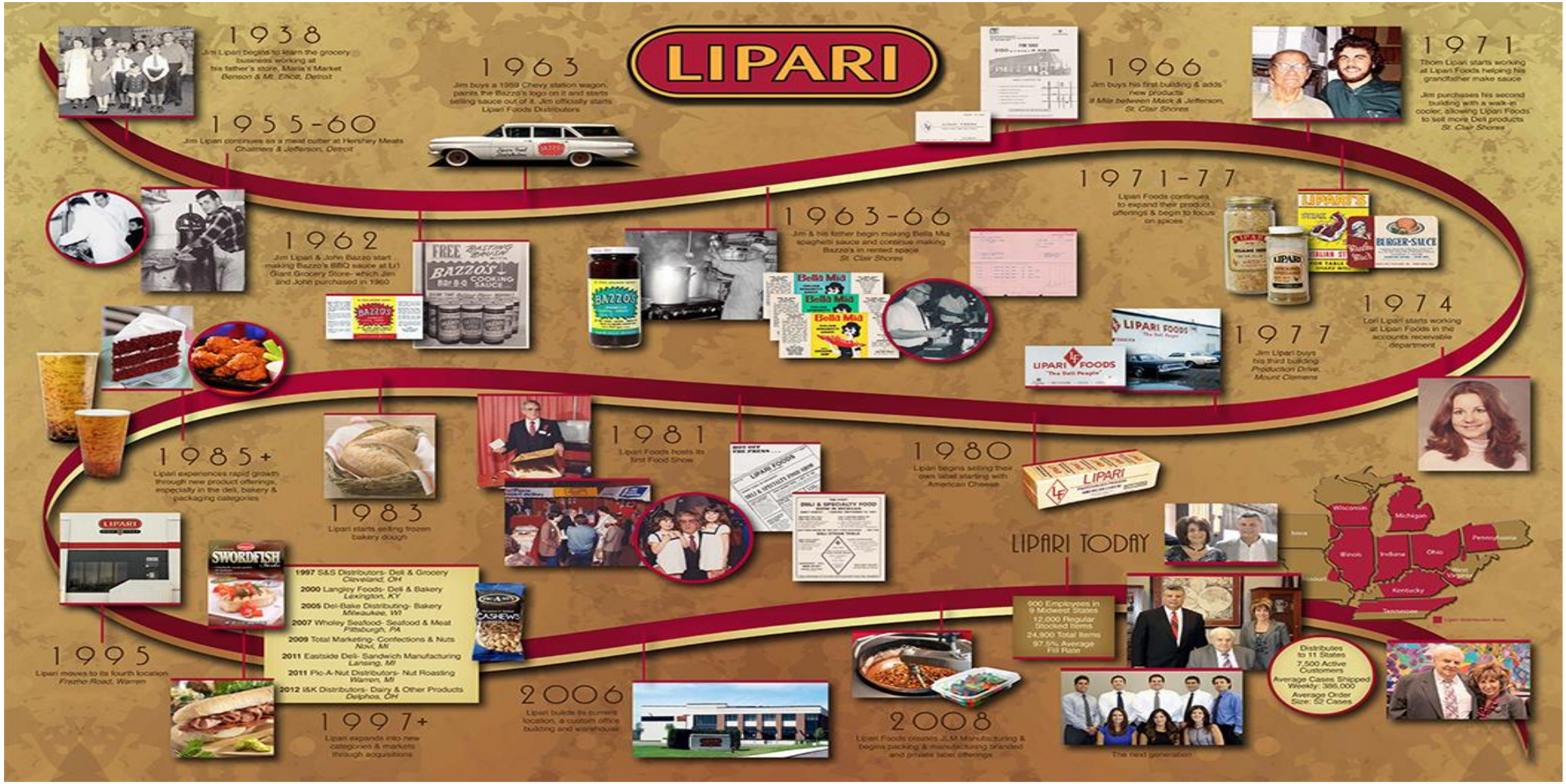
What We Do

- Multi Channel Specialty Distributor (FMCG)
- Utilize Technology as Competitive Advantage
- Change & Adapt & Grow: “Its in our Blood”

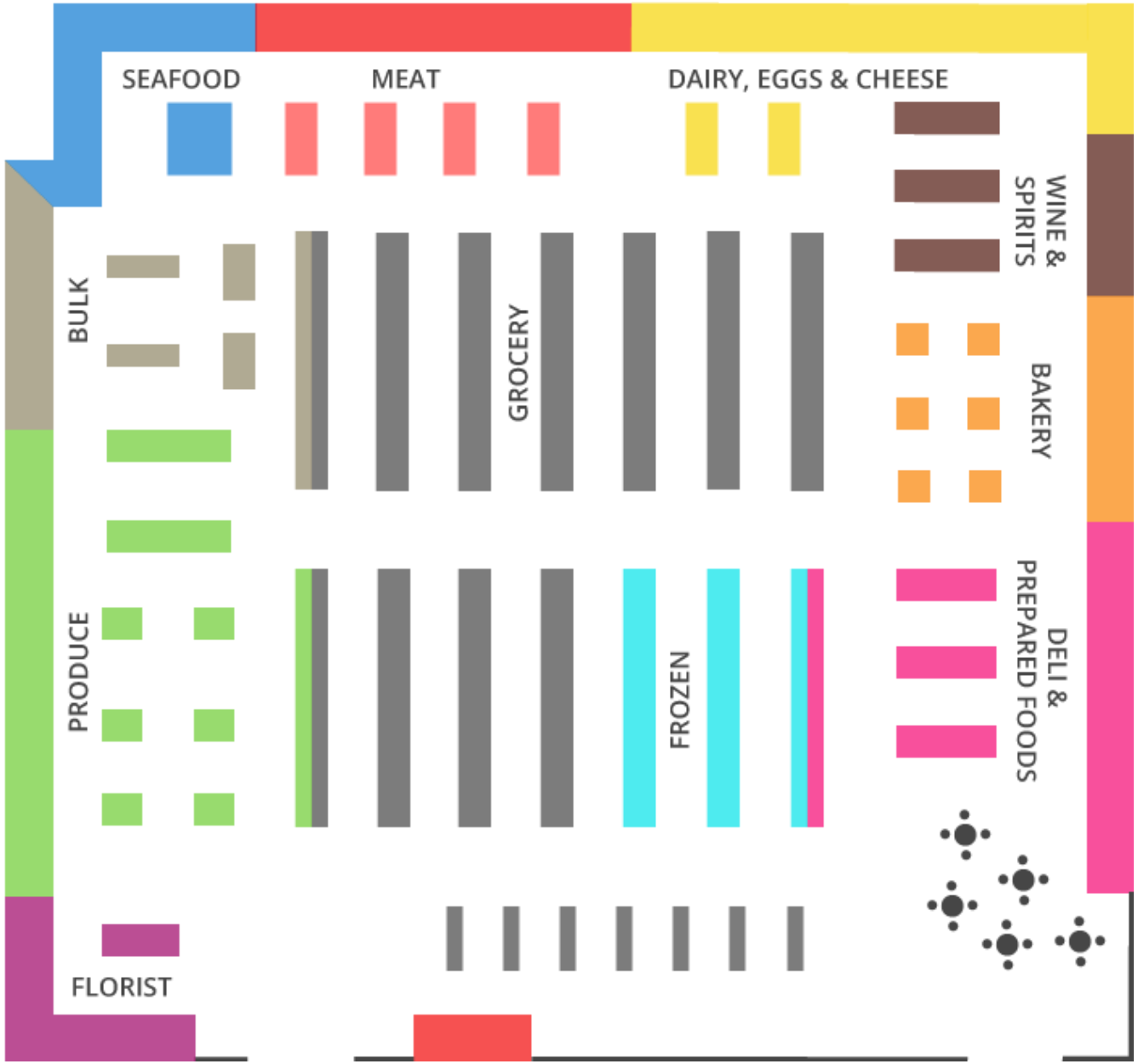
Current Corporate HQ Built 2006

New Facility July 2017 (Across Street)

Where we Started:



Customer Points of Contact (Retail)



Consumer Experience at Retail with Bad Supply Chain Data

LIPARI

CROWN lift trucks

Strategic Partner

SCM Product Advisory Site

- **WMS Scanning and Mobility**

THOR

A730

EDA 70

Scanning and Mobility

Direct Reps

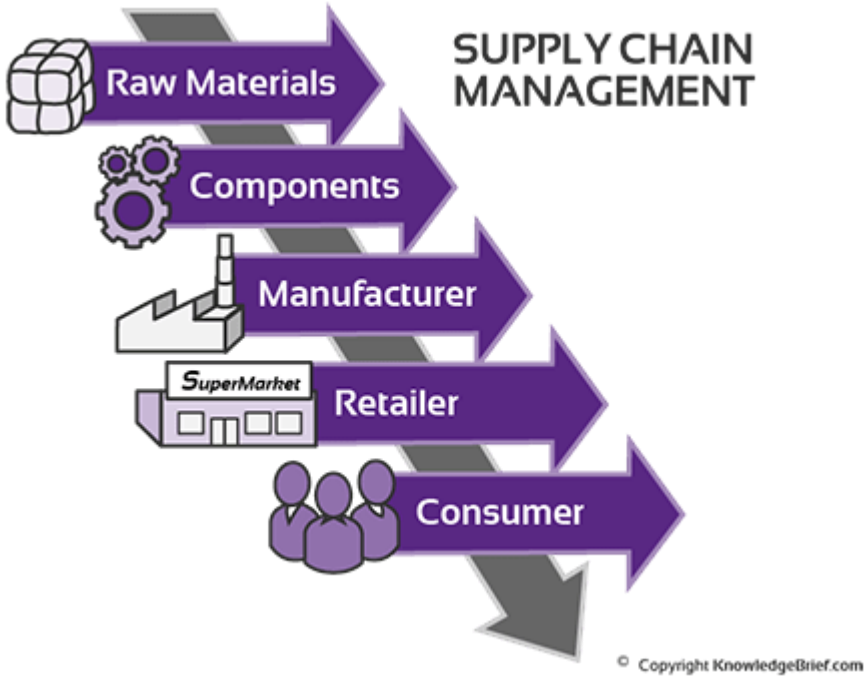
Retail & In Field

CT-50

1602G-2D

datamax RL4e

Supply Chain Circa 1950's - 2000's



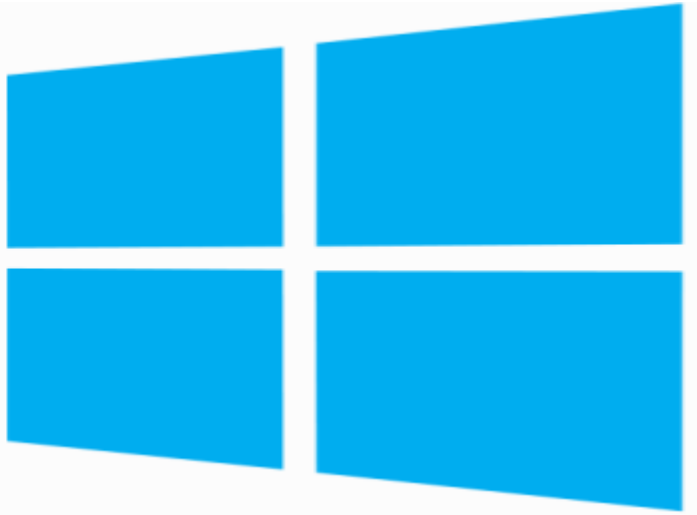
SUPPLY
CHAIN
MANAGEMENT
RESOURCES
SYSTEM
PEOPLE
MARKET
PROCESS
ORGANIZATION
PLANNING
INVENTORY
PRODUCT
LOGISTICS
PARTNER
NETWORK
DEVELOPMENT
SUPPLIER
VALUE
MATERIAL
CONVERSION
DISTRIBUTION
GLOBAL
SERVICE
RAW
ORIGINAL
ACTIVITY
USER
DEMAND
COMPLEX
TECHNOLOGY
PROVIDER
STORAGE
FUNCTION
DESIGN
LAYER
COLLABORATION
COORDINATION
REMOTE
COMPONENT
BUSINESS
CUSTOMER
MODELING

How We Report it?

- Dashboards
- PDF
- MS EXCEL
- WF Active Technologies
- WF Portals
- Mobile
- 3D Applications…

Browser Support for Desktop | Laptops

OS Support for Tablets | Smart Phones



iOS Devices Today: iPhone, iPad, iPad Mini

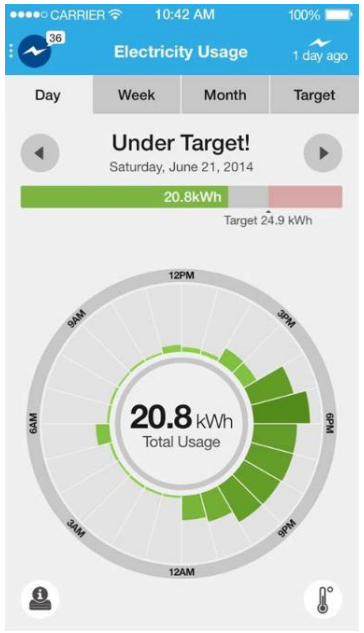
iOS Devices Tomorrow:

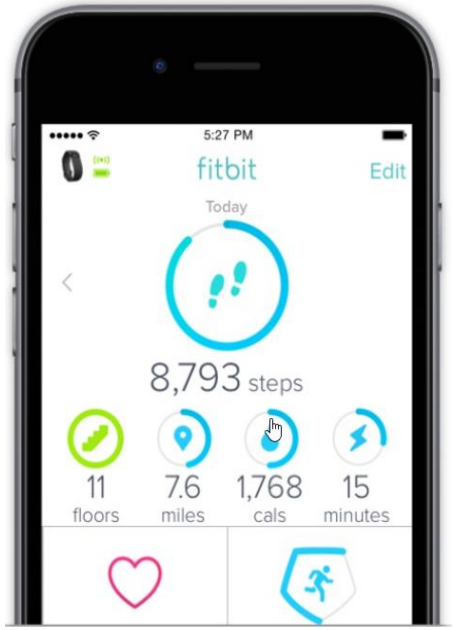
iPhone 12

Apple Watch

Dashboards / Visualizations

- Why Do they have to look good?
- Access to dashboards is no longer just for execs.
- Every technology user today is exposed to a dashboard.
- Data Consumers expect data in real-time.

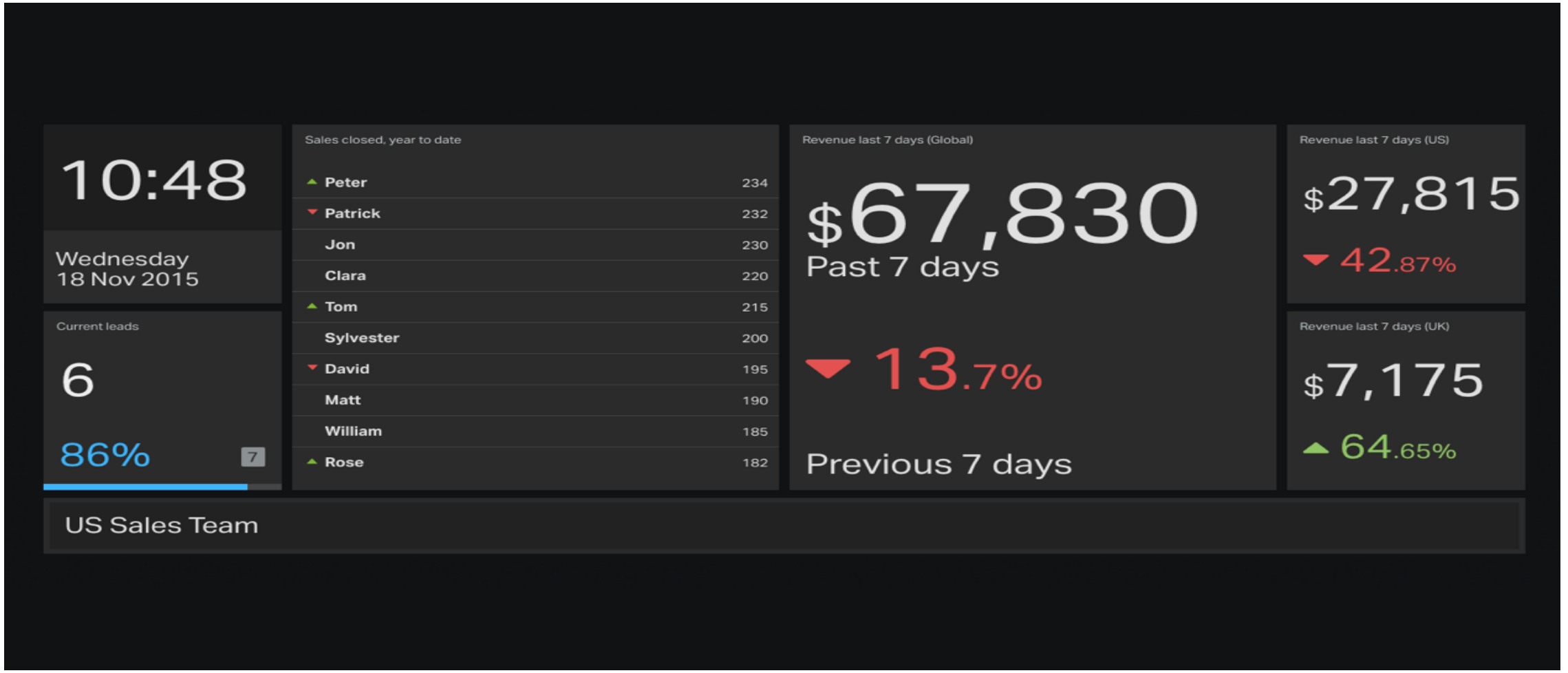




Sales Dashboard … Simple Mission

- To create a single dashboard application for company wide sales tracking.

Sales Dashboard V1

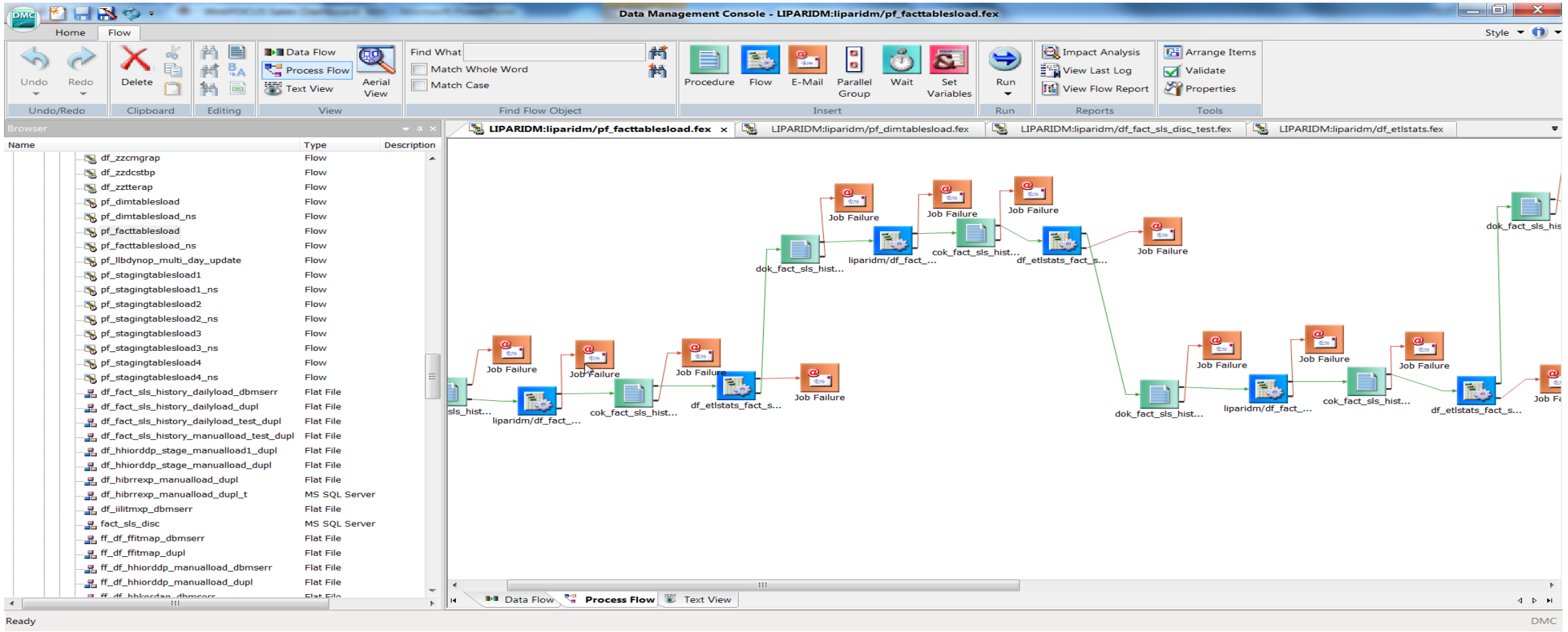


MILLILITERS
OUNCES
24 tbsp
12 oz
11
10
9
8
7
6
5
4
3
2
1-1/2
1
Tumbler
Cup
Split
Wineglass
Teacup
Gill
Triple
Snit
Double
Jigger
Pony
Shot
1-1/2
1-1/4

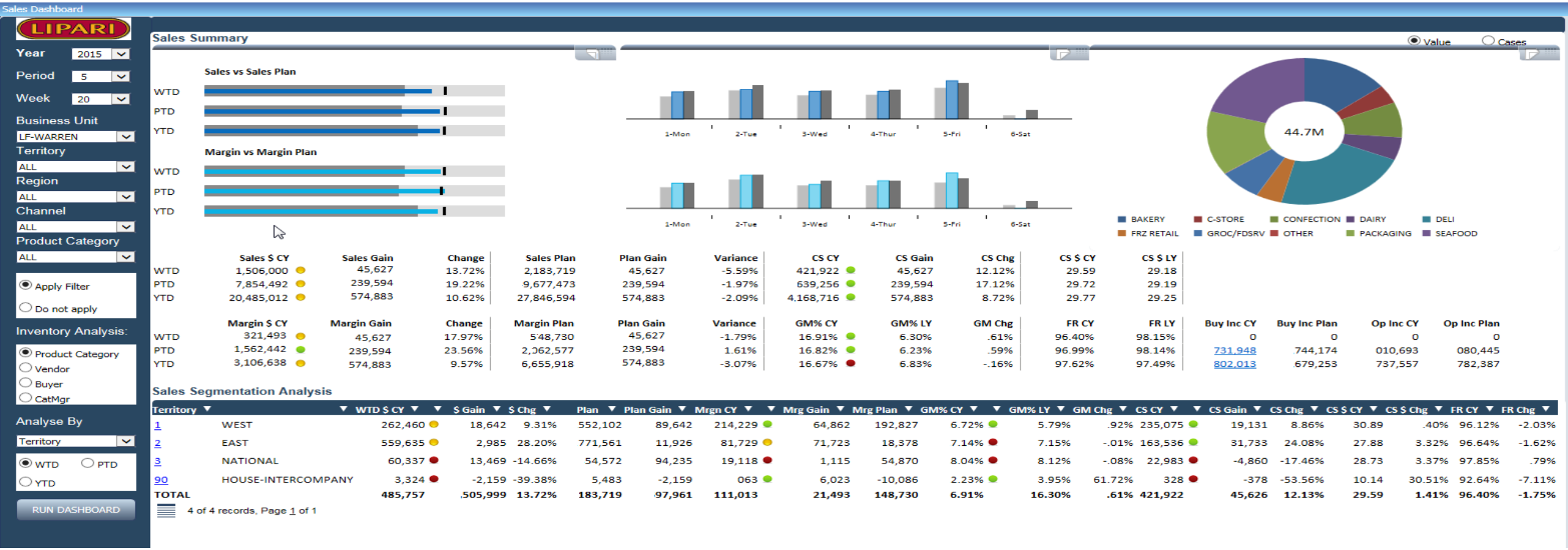
The Data Challenge – Definition on Metrics

SALES – TRANSACTION COST – REBATES OFF SALE – REBATES OFF COST – BUT WAIT…

ETL = “A lot of Squiggly Lines”



Dashboard Launch Page

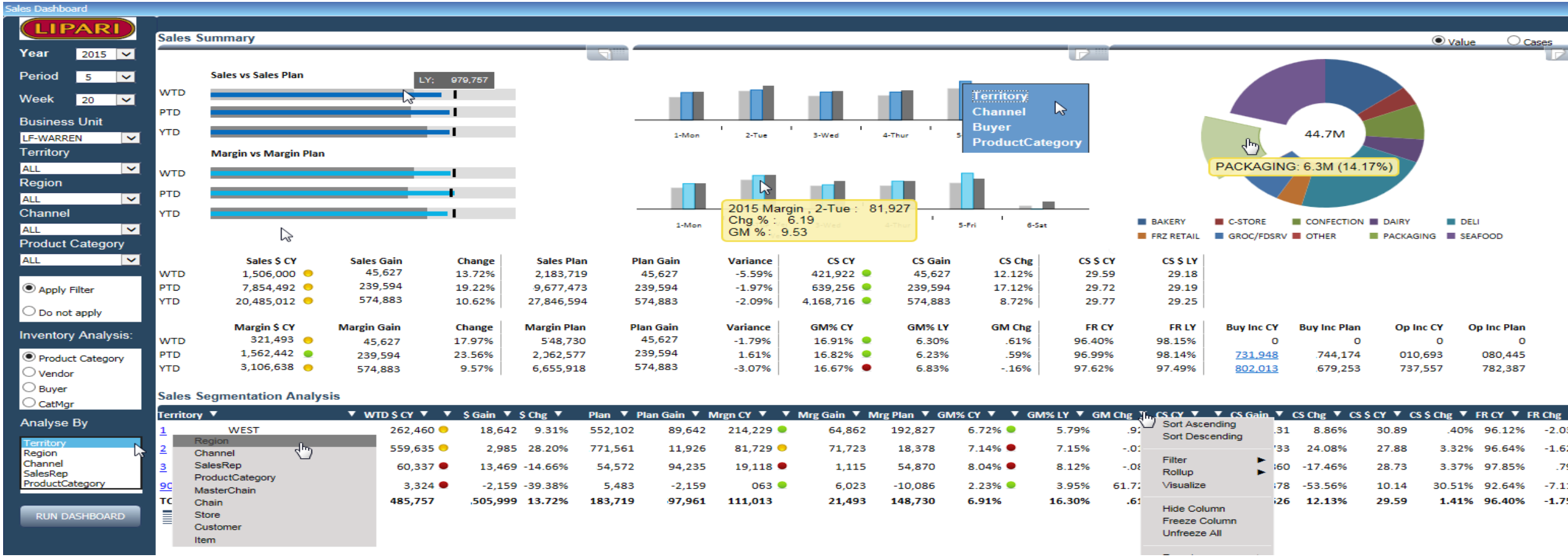


	Sales $ CY	Sales Gain	Change	Sales Plan	Plan Gain	Variance	CS CY	CS Gain	CS Chg	CS $ CY	CS $ LY
WTD	1,506,000	45,627	13.72%	2,183,719	45,627	-5.59%	421,922	45,627	12.12%	29.59	29.18
PTD	7,854,492	239,594	19.22%	9,677,473	239,594	-1.97%	639,256	239,594	17.12%	29.72	29.19
YTD	20,485,012	574,883	10.62%	27,846,594	574,883	-2.09%	4,168,716	574,883	8.72%	29.77	29.25

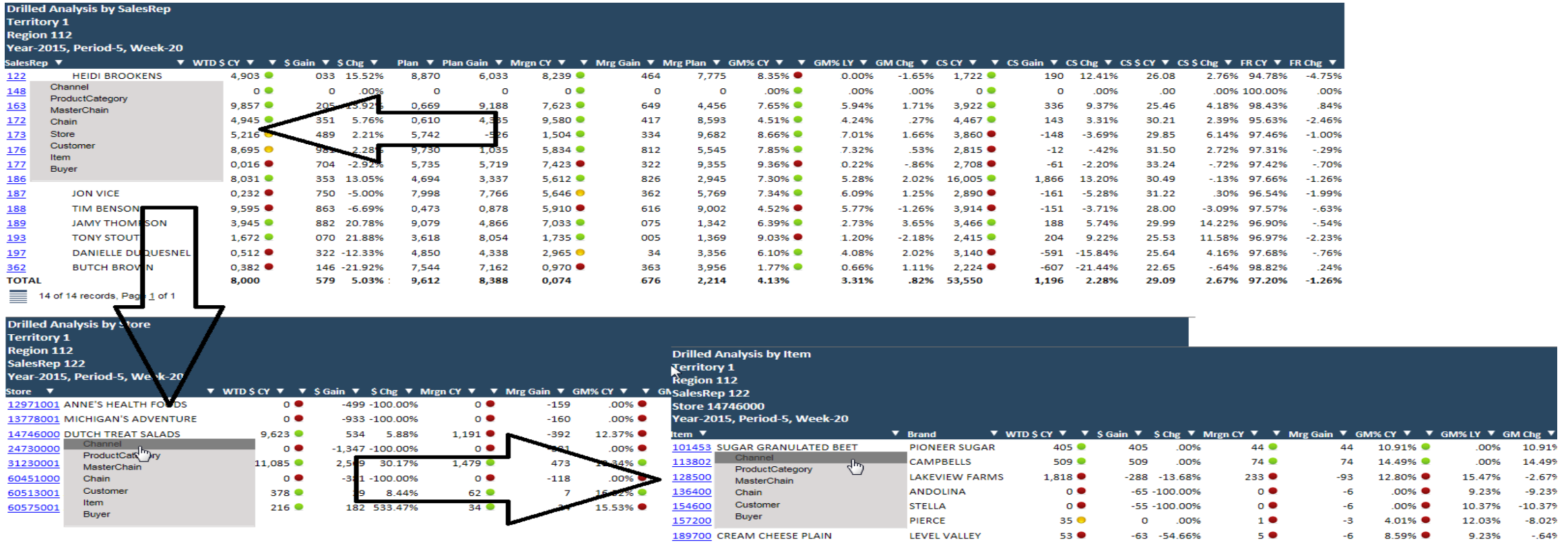
	Margin $ CY	Margin Gain	Change	Margin Plan	Plan Gain	Variance	GM% CY	GM% LY	GM Chg	FR CY	FR LY	Buy Inc CY	Buy Inc Plan	Op Inc CY	Op Inc Plan
WTD	321,493	45,627	17.97%	5'48,730	45,627	-1.79%	16.91%	6.30%	.61%	96.40%	98.15%	0	0	0	0
PTD	1,562,442	239,594	23.56%	2,062,577	239,594	1.61%	16.82%	6.23%	.59%	96.99%	98.14%	731,948	744,174	010,693	080,445
YTD	3,106,638	574,883	9.57%	6,655,918	574,883	-3.07%	16.67%	6.83%	-.16%	97.62%	97.49%	802,013	679,253	737,557	782,387

Territory		WTD $ CY	$ Gain	$ Chg	Plan	Plan Gain	Mrgn CY	Mrg Gain	Mrg Plan	GM% CY	GM% LY	GM Chg	CS CY	CS Gain	CS Chg	CS $ CY	CS $ Chg	FR CY	FR Chg
1	WEST	262,460	18,642	9.31%	552,102	89,642	214,229	64,862	192,827	6.72%	5.79%	.92%	235,075	19,131	8.86%	30.89	.40%	96.12%	-2.03%
2	EAST	559,635	2,985	28.20%	771,561	11,926	81,729	71,723	18,378	7.14%	7.15%	-.01%	163,536	31,733	24.08%	27.88	3.32%	96.64%	-1.62%
3	NATIONAL	60,337	13,469	-14.66%	54,572	94,235	19,118	1,115	54,870	8.04%	8.12%	-.08%	22,983	-4,860	-17.46%	28.73	3.37%	97.85%	.79%
90	HOUSE-INTERCOMPANY	3,324	-2,159	-39.38%	5,483	-2,159	063	6,023	-10,086	2.23%	3.95%	61.72%	328	-378	-53.56%	10.14	30.51%	92.64%	-7.11%
TOTAL		485,757	,505,999	13.72%	183,719	,97,961	111,013	21,493	148,730	6.91%	16.30%	.61%	421,922	45,626	12.13%	29.59	1.41%	96.40%	-1.75%

Dashboard Interactive



WF Active Reports Drill Down(s)



Drilled Analysis by SalesRep
Territory 1
Region 112
Year-2015, Period-5, Week-20

SalesRep		WTD $ CY	$ Gain	$ Chg	Plan	Plan Gain	Mrgn CY	Mrg Gain	Mrg Plan	GM% CY	GM% LY	GM Chg	CS CY	CS Gain	CS Chg	CS $ CY	CS $ Chg	FR CY	FR Chg
122	HEIDI BROOKENS	4,903	033	15.52%	8,870	6,033	8,239	464	7,775	8.35%	0.00%	-1.65%	1,722	190	12.41%	26.08	2.76%	94.78%	-4.75%
148		0	0	.00%	0	0	0	0	0	.00%	.00%	.00%	0	0	.00%	.00	.00%	100.00%	.00%
163		9,857	205	2.12%	0,669	9,188	7,623	649	4,456	7.65%	5.94%	1.71%	3,922	336	9.37%	25.46	4.18%	98.43%	.84%
172		4,945	351	5.76%	0,610	4,335	9,580	417	8,593	4.51%	4.24%	.27%	4,467	143	3.31%	30.21	2.39%	95.63%	-2.46%
173		5,216	489	2.21%	5,742	-526	1,504	334	9,682	8.66%	7.01%	1.66%	3,860	-148	-3.69%	29.85	6.14%	97.46%	-1.00%
176		8,695	985	2.28%	9,730	1,035	5,834	812	5,545	7.85%	7.32%	.53%	2,815	-12	-.42%	31.50	2.72%	97.31%	-.29%
177		0,016	704	-2.92%	5,735	5,719	7,423	322	9,355	9.36%	0.22%	-.86%	2,708	-61	-2.20%	33.24	-.72%	97.42%	-.70%
186		8,031	353	13.05%	4,694	3,337	5,612	826	2,945	7.30%	5.28%	2.02%	16,005	1,866	13.20%	30.49	-.13%	97.66%	-1.26%
187	JON VICE	0,232	750	-5.00%	7,998	7,766	5,646	362	5,769	7.34%	6.09%	1.25%	2,890	-161	-5.28%	31.22	.30%	96.54%	-1.99%
188	TIM BENSON	9,595	863	-6.69%	0,473	0,878	5,910	616	9,002	4.52%	5.77%	-1.26%	3,914	-151	-3.71%	28.00	-3.09%	97.57%	-.63%
189	JAMY THOMPSON	3,945	882	20.78%	9,079	4,866	7,033	075	1,342	6.39%	2.73%	3.65%	3,466	188	5.74%	29.99	14.22%	96.90%	-.54%
193	TONY STOUT	1,672	070	21.88%	3,618	8,054	1,735	005	1,369	9.03%	1.20%	-2.18%	2,415	204	9.22%	25.53	11.58%	96.97%	-2.23%
197	DANIELLE DUQUESNEL	0,512	322	-12.33%	4,850	4,338	2,965	34	3,356	6.10%	4.08%	2.02%	3,140	-591	-15.84%	25.64	4.16%	97.68%	-.76%
362	BUTCH BROWN	0,382	146	-21.92%	7,544	7,162	0,970	363	3,956	1.77%	0.66%	1.11%	2,224	-607	-21.44%	22.65	-.64%	98.82%	.24%
TOTAL		**8,000**	**579**	**5.03%**	**9,612**	**8,388**	**0,074**	**676**	**2,214**	**4.13%**	**3.31%**	**.82%**	**53,550**	**1,196**	**2.28%**	**29.09**	**2.67%**	**97.20%**	**-1.26%**

Channel
ProductCategory
MasterChain
Chain
Store
Customer
Item
Buyer

14 of 14 records. Page 1 of 1

Drilled Analysis by Store
Territory 1
Region 112
SalesRep 122
Year-2015, Period-5, Week-20

Store		WTD $ CY	$ Gain	$ Chg	Mrgn CY	Mrg Gain	GM% CY	GM
12971001	ANNE'S HEALTH FOODS	0	-499	-100.00%	0	-159	.00%	
13778001	MICHIGAN'S ADVENTURE	0	-933	-100.00%	0	-160	.00%	
14746000	DUTCH TREAT SALADS	9,623	534	5.88%	1,191	-392	12.37%	
24730000		0	-1,347	-100.00%	0	[illegible]	.00%	
31230001		11,085	2,5[illegible]9	30.17%	1,479	473	[illegible]4%	
60451000		0	-3[illegible]1	-100.00%	0	-118	.00%	
60513001		378	[illegible]9	8.44%	62	7	16.[illegible]2%	
60575001		216	182	533.47%	34	[illegible]	15.53%	

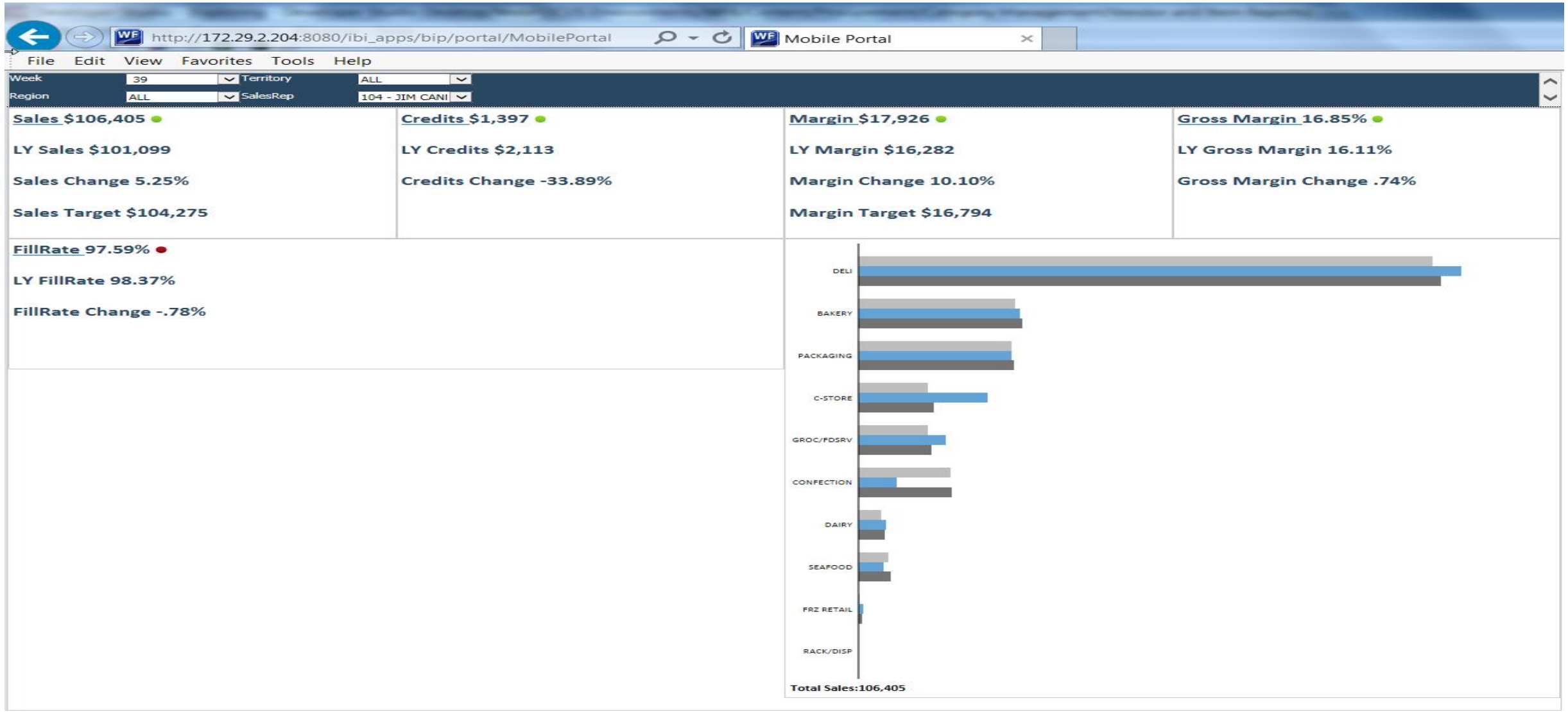
Channel
ProductCategory
MasterChain
Chain
Customer
Item
Buyer

Drilled Analysis by Item
Territory 1
Region 112
SalesRep 122
Store 14746000
Year-2015, Period-5, Week-20

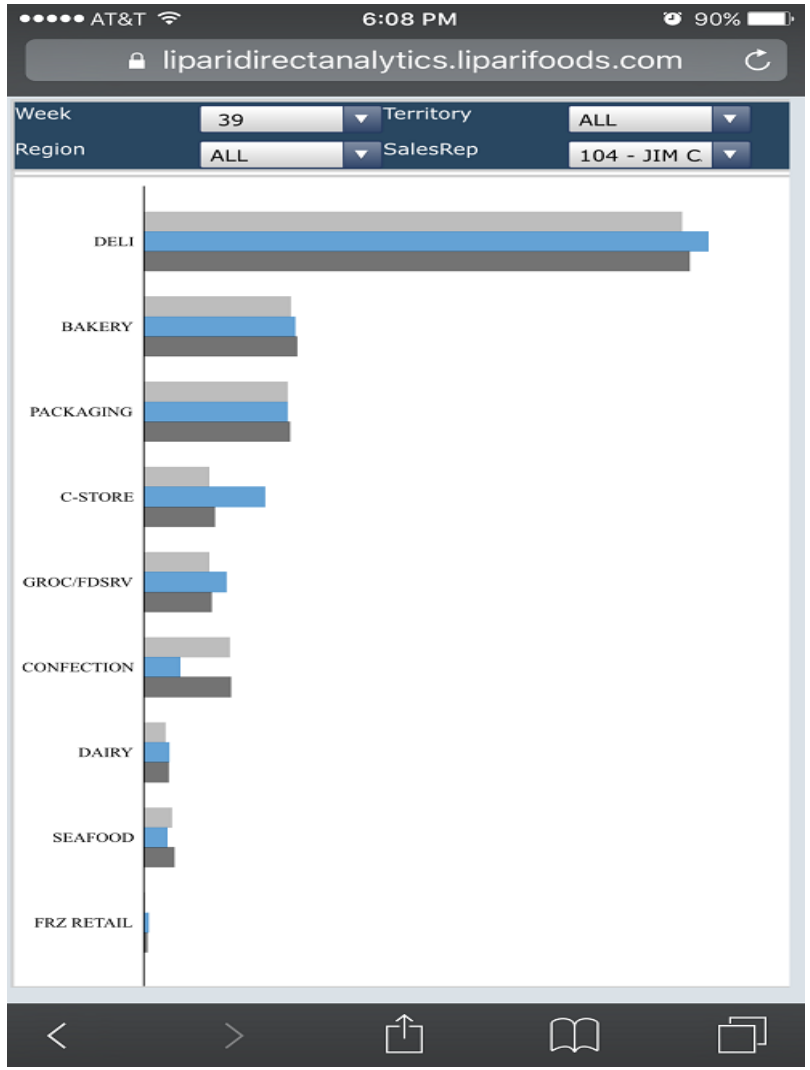
Item		Brand	WTD $ CY	$ Gain	$ Chg	Mrgn CY	Mrg Gain	GM% CY	GM% LY	GM Chg
101453	SUGAR GRANULATED BEET	PIONEER SUGAR	405	405	.00%	44	44	10.91%	.00%	10.91%
113802	CAMPBELLS	CAMPBELLS	509	509	.00%	74	74	14.49%	.00%	14.49%
128500		LAKEVIEW FARMS	1,818	-288	-13.68%	233	-93	12.80%	15.47%	-2.67%
136400		ANDOLINA	0	-65	-100.00%	0	-6	.00%	9.23%	-9.23%
154600		STELLA	0	-55	-100.00%	0	-6	.00%	10.37%	-10.37%
157200		PIERCE	35	0	.00%	1	-3	4.01%	12.03%	-8.02%
189700	CREAM CHEESE PLAIN	LEVEL VALLEY	53	-63	-54.66%	5	-6	8.59%	9.23%	-.64%

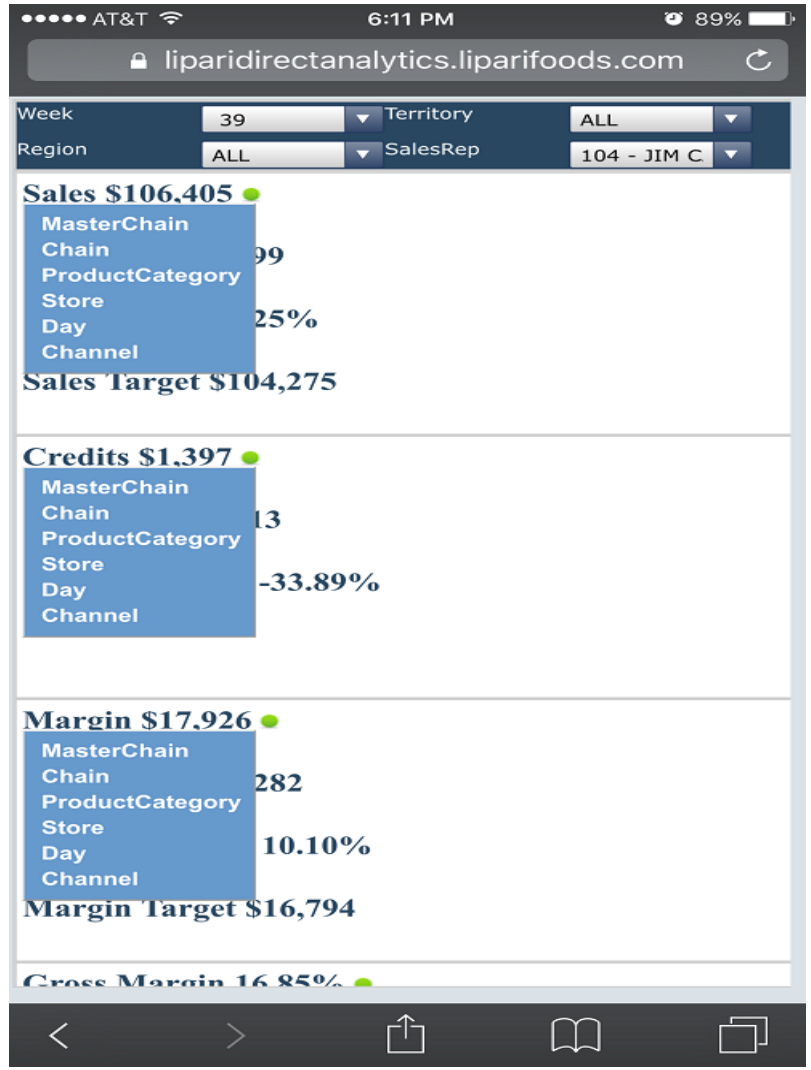
Channel
ProductCategory
MasterChain
Chain
Customer
Buyer

Responsive Portal



Portal on Mobile Device





Impact of Mobile Portal

I moved my phone charger from my office to my bedroom. The first thing I look for when I wake up is that “Green Dot”.

Thom Lipari
President/CEO
Lipari Foods LLC.

Tony Franchi
Sr. VP. Of Sales
Lipari Foods LLC.

Warehousing Analytics Before BI

Our Business Intelligence in 2010

2010
First commercially available Jet Pack

```
LIPARI04                    Lipari Custom Menu                        2/28/19
                      Lipari Inventory Reports 1                     17:12:52

Select one of the following, press ENTER.

 1 Items On-Hand w/o Pick Slot    (Spl)  13 Pallets in the Wrong Pick Slot(Spl)
 2 Items On-Order w/o Pick Slot   (Spl)  14 Catch Items W/Wrong Item Wgt  (Spl)
 3 Items w/o Pick in PW but in PE(Dsp)  15 Catch Items W/Wrong Inv. Wgt  (Spl)
 4 Floating Pallets in Bad Loc    (Spl)  16 Random Items W/Bad Weights    (Spl)
 5 Pallets With Negative Quantity(Spl)  17 Random Pallets W/Bad Weights  (Spl)
 6 Check Pallets > 2000 lbs       (Dsp)
 7 Check Pallets <    0 lbs       (Spl)  19 Custom Queries
 8 Chk Pieces on Case Only Items  (Spl)  20 Custom Programs
 9 Return Pallets Not Closed      (Spl)  21 Display Messages
                                         22 Work Spool Files
                                         23 Inquiry Menu
12 Items W/Empty PK Slots W/Inv   (Dsp)  24 RF Menu

                                         90 Sign Off

   Option: __
```

```
WSHINPS1                    Retalix Power Warehouse                      2/28/19
  1 /   1              Shipping Pallet Summary Inquiry                  17:13:52
Route:  5011 Date:  3/01/19 Time:     1 Depot: *ALL          UOW:  *ALL
Order: *ALL    Sel Zn: *ALL Chmbr: *ALL Item: *ALL           Empl: *ALL
Customer: *ALL        Pallet: *ALL
1=Route Inq  2=SZ Inq  3=Uow Inq  4=Cust Inq  5=Orders Inq  6=Selector Inq
                                 --------------- Total Pieces ------------------
Act Ship Pallet  Load?   Pos   Alloc    Open In Proc Feedbck Shipped    Outs
 __ S229845170     Y              78                              78
 __ S229845171     Y              91                              91
 __ S229845172     Y              97                              97
 __ S229845174     Y              42                              42
 __ S229845176     Y              50                              50
 __ S229845178     Y              54                              54
 __ S229845180     Y              96                              95       1
 __ S229845182     Y              32                              32
 __ S229845184     Y              48                              48
 __ S229845186     Y             102                             102
 __ S229845188     Y              36                              36
 __ S229845190     Y              33                              33
 __ S229845192     Y             120                             120
```

Warehouse Dispatch Monitoring

Used by the Dock Supervisor on an iPAD

Ties data from multiple sources

Set	Shuttle	Door	Sch Dsp	Paper Work	Door Close	Act Dsp	Routes	Pallets	Cubes	Cases	Pallets To Load
1	MILWAUKEE SHUTTLE #1	12	17:30	17:09	18:01		4	24	1265	1733	0
1	MADISON SHUTTLE #1	8	17:00	16:57	17:18		3	22	1046	1480	0
1	MADISON SHUTTLE #2	10	17:00	17:05	17:32		3	23	1225	1069	0
1	RACINE SHUTTLE #1	14	17:30	17:09	17:30		3	24	1016	1118	0
1	GREEN BAY SHUTTLE #1	4	17:00	17:13	17:09		4	23	1504	1337	0
1	GREEN BAY SHUTTLE #2	6	17:00	17:31	18:16		3	22	1604	1711	0
1	INDIANAPOLIS SHUTTLE #1	13	19:00				3	22	960	1293	7
1	INDIANAPOLIS SHUTTLE #2	15	19:00	19:17	19:21		3	22	902	1137	0
2	WEST BRANCH SHUTTLE #1	5	20:00	18:52	19:30		5	25	1409	1723	0
2	WEST BRANCH SHUTTLE #2	9	20:00	17:55	18:46		4	24	1630	2011	0
2	CADILLAC SHUTTLE #1	20	20:00	18:32	18:49		2	22	1568	1937	0
2	CADILLAC SHUTTLE #2	22	20:00	19:03	19:36		3	22	1564	2015	0
2	GEORGETOWN SHUTTLE #1	3	20:00				1	11	706	826	4
2	GEORGETOWN SHUTTLE #2	8	20:00				4	26	1740	1850	26
2	NORMAL SHUTTLE #1	18	19:00	19:36			3	24	1112	1093	5
2	NORMAL SHUTTLE #2	17	19:00				2	22	1313	1480	16
2	BOWLING GREEN SHUTTLE #1	21	20:00				2	25	1299	1137	25
2	BOWLING GREEN SHUTTLE #2	4	20:00				3	26	1670	1765	23
2	BOWLING GREEN SHUTTLE #3	6	20:00				3	25	1393	1554	25
2	ROCKFORD SHUTTLE #1	16	20:00	19:43			3	22	1190	1474	8
2	HUNTINGTON SHUTTLE #1	11	20:00				4	22	936	1442	9
3	KALAMAZOO SHUTTLE #1 (MARTINS)	10	21:00				1	18	905	97	16
3	KALAMAZOO SHUTTLE #2 (MARTINS)	12	21:00				2	22	1071	446	13
3	KALAMAZOO SHUTTLE #3 (MARTINS)	14	21:00				1	23	1041	23	23
3	KALAMAZOO SHUTTLE #4 (MARTINS)	5	21:00				2	22	972	485	22
3	KALAMAZOO SHUTTLE #5 (MARTINS)	9	21:00				2	22	1424	1751	22
3	KALAMAZOO SHUTTLE #6 (MARTINS)	11	21:00				2	22	1216	1225	22

Mobile Screens on IPADs and Cell Phones

Area	Pr	Time	Emp	Moves
RMT	B	13:23	MH4366	1
RMB	C	13:25	BS6126	1
RMT	C	13:18	SU4600	1
RMT	C	13:25	JW5105	1
RMA	D	13:19	WM6224	1
RMA	D	13:25	KT6724	1
RMA	D	13:25	VM6696	1
RMA	D	13:26	ME3421	1
RMA	D	13:26	RL5920	1
RMB	D	13:26	CW6343	1
RMB	D	13:27	AG5893	1
RMB	D	13:27	KS6227	1
RMB	D	13:27	MF6038	1
RMC	D	13:10	TG6884	1
RMC	D	13:25	MH3276	1
RMT	D	13:25	PD5702	1
RMA	Z	13:25	AN6181	1
* 0				17
RMV	C			6
* C				6
RMA	D			49
RMB	D			89
RMC	D			95
RMS	D			17
RMT	D			19
RMV	D			2
* D				271

Refresh

Forklift Activity

Last Runtime 2017/06/27 1:40:42PM

Cur Cde	Curr Code Desc	Job Start Tim	Prv Cde	Prev Code Desc	Prev From Loc	Prev To Loc	Mve Typ	Mve Pr	From Location	To Location	Emp No	Emp Name	Prev Mins	Move Mins	Mv/hr	Hrs Here	Move Count
111	PUT A/B	08:21:50	322	SANIT B DAYS	DR-DTR	B03-155F6			-	-	GB721	GERALD BLASKAY	7	0	25.8	5.4	140
111	PUT A/B	08:17:07	325	EOS MISC WORK	DR-D20	B07-2703	P	E	DR-D20	B03-295A	EB3802	ERIC BABBITT	0	4	22.4	5.4	121
111	PUT A/B	09:37:53	325	EOS MISC WORK	DR-D27	A95-4101	P	E	DR-D27	A07-3905	KY708	KHOUA YANG	0	4	26.1	5.4	140
111	PUT A/B	09:11:07	127	FORKLIFT BATTERY	DR-DTR	B04-2755	P	E	DR-D14	B04-4103	NZ977	NORM ZERBST	0	1	26.2	9.5	250
111	PUT A/B	08:52:46	197	PALLETS	DR-D14	B10-2405	P	E	DR-D14	B04-4101	RM6309	RYAN MILLER	0	1	26.3	6.4	169
111	PUT A/B	09:08:18	127	FORKLIFT BATTERY	DR-D30	A01-3853	P	E	DR-D30	B03-1305	TF709	TERRY FISHER	0	1	21.3	9.4	201
113	PUT C	11:50:59	123	STOCK C	DR-D22	DR-D65			-	-	JF430	JAMES FAULKNER	1	0	16.3	5.5	89
113	PUT C	11:53:57	111	PUT A/B	DR-D22	DR-D65	P	E	DR-D22	S02-505C2	DC881	DAVE COOK	0	2	18.4	9.2	168
113	PUT C	12:49:53	127	FORKLIFT BATTERY	DR-D04	C07-2305	P	E	DR-D05	C07-2655	JJ906	JASON JORGENSON	0	2	20.2	5.2	106
121	STOCK A/B	12:17:59	111	PUT A/B	A04-5251	A02-485A			-	-	ME3421	MIKE ECKERT	14	0	18.4	3.6	66
121	STOCK A/B	12:13:06	121	STOCK A/B	B10-1251	B10-165B3	R	D	B10-4053	B10-405B4	AG5893	ANTIJUAN GRAY	0	2	15.8	1.5	23
121	STOCK A/B	12:20:37	121	STOCK A/B	B09-3751	B09-315C7	R	A	A04-3702	A04-525C1	AN6181	ANTHONY NEELY	0	1	3.5	14.0	49
121	STOCK A/B	12:05:07	121	STOCK A/B	B06-3051	B06-280B	R	D	B95-4101	B95-360B	BS6126	BRANDIN SCHULTES	0	5	20.7	1.6	33
121	STOCK A/B	12:08:09	121	STOCK A/B	B07-4052	B07-360A	R	D	B90-4852	B90-465C	CW6343	CHRISTOPHER WADE	0	3	24.0	1.5	37
121	STOCK A/B	11:25:02	127	FORKLIFT BATTERY	B08-3001	B09-450B7	R	D	B10-3702	B10-385C1	KS6227	KAREGA SCOTT	0	2	18.4	3.5	65
121	STOCK A/B	12:06:04	121	STOCK A/B	A18-2855	A17-240B	R	D	A11-1704	A14-255B	KT6724	KARIM TURNER	0	5	23.5	1.6	37
121	STOCK A/B	10:04:15	121	STOCK A/B	B08-1451	B10-255D7	R	D	B10-3202	B10-215C5	MF6038	MICHAEL FRANKLIN	0	1	21.9	3.6	79
121	STOCK A/B	13:03:29	425	MIS FORK MOVES	A12-1801	A11-215A	R	D	A02-3054	A90-160C	RL5920	ROBERT LANE	0	12	13.4	3.5	47
121	STOCK A/B	12:00:58	121	STOCK A/B	A13-1753	A07-170A	R	D	A06-5251	A95-290A	VM6696	VINCENT MILIOTO	0	2	19.3	1.7	32
121	STOCK A/B	13:15:34	425	MIS FORK MOVES	A15-2252	A17-295A	R	D	A90-3102	A90-310B	WM6224	WILL MALONE	0	1	4.3	1.6	7
123	STOCK C	10:07:34	197	PALLETS	C18-1102	C18-120B1	R	D	C08-1603	C07-180A	MH3276	MARK HARKINS	0	2	17.5	3.6	62
123	STOCK C	12:28:06	121	STOCK A/B	C19-3501	C19-420C1	R	Z	C19-3801	C19-445C2	TG6884	TERRY GRIER	0	1	16.5	1.2	20
197	PALLETS	13:23:04	123	STOCK C	C18-3655	C18-355B4			-	-	KM5750	KEVIN MOSELEY	19	0	13.7	1.5	21
300	OFFICE GENERAL	07:02:48	300	OFFICE GENERAL	-	-			-	-	PP3940	PETER PALM	820	0	.0	6.6	0
318	SLOT MOVES -	08:02:49	124	STOCK T	D08-105	TRA-TR05			-	-	DT3296	DANIEL TRAVIS	1	0	25.4	5.6	143
318	SLOT MOVES -	06:56:20	113	PUT C	DR-D60	TRA-TR02			-	-	MF4245	MICHAEL FOYT	113	0	15.6	6.7	105
511	PUTAWAY - WH2	13:17:54	425	MIS FORK MOVES	DR-D204	DR-DTR			-	-	BT5821	BRANDON TERRILL	2	0	25.3	6.5	165
511	PUTAWAY - WH2	10:38:35	318	SLOT MOVES -	DR-D65	T10-3652			-	-	IR6149	ISIAH ROBINSON	21	0	25.7	3.5	90
511	PUTAWAY - WH2	13:15:15	425	MIS FORK MOVES	S02-4252	S02-4252	P	Z	S01-4852	S01-4802	DP701	DAVID PAKULSKI	0	2	13.8	8.5	117
511	PUTAWAY - WH2	11:49:23	511	PUTAWAY - WH2	DR-D203	S13-100A	P	E	DR-D203	T01-245A	JH4901	JACOB HANSON	0	1	19.8	7.6	150
521	STOCK - WH2	12:37:15	127	FORKLIFT BATTERY	T01-385B	T07-385B1			-	-	PD5702	PATRICK DONNELL	7	0	18.7	3.6	67
521	STOCK - WH2	10:17:14	425	MIS FORK MOVES	T08-4052	T08-230B7			-	-	SU4600	SYLVESTER UNDERWOOD	5	0	16.9	3.5	59
521	STOCK - WH2	12:51:58	425	MIS FORK MOVES	T07-0852	L02-190F1	R	B	S02-7002	S02-725B2	JW5105	JOHN WHITE	0	4	18.2	1.8	32
521	STOCK - WH2	12:08:21	425	MIS FORK MOVES	T07-3251	T07-375B6	R	B	T09-6152	T09-595D7	MH4366	MAZIN HORMIZ	0	2	20.1	1.5	31
521	STOCK - WH2	13:33:16	310	IC GENERAL	S09-5001	S10-625B2	R	D	S02-1052	S08-285B2	TH6674	TRAVIS HOWELL	0	3	12.3	7.7	94

Set	Shuttle	Door	Sch Dsp	Paper Work	Door Close	Act Dsp	Routes	Pallets	Cubes	Cases	Pallets To Load
1	MILWAUKEE SHUTTLE #1	14	17:30	[redacted]			4	24	1153	1622	24
1	MADISON SHUTTLE #1	10	17:00				4	22	1460	2138	22
1	MADISON SHUTTLE #2	12	17:00				3	22	1356	1777	22
1	RACINE SHUTTLE #1	16	17:30				3	23	935	1352	23
1	GREEN BAY SHUTTLE #1	6	17:00				3	22	1114	1727	22
1	GREEN BAY SHUTTLE #2	8	17:00				2	22	970	910	22
1	INDIANAPOLIS SHUTTLE #1	15	19:00				3	22	1081	1321	22
1	INDIANAPOLIS SHUTTLE #2	17	19:00				2	16	746	601	16
2	WEST BRANCH SHUTTLE #1	9	20:00				2	22	1516	1857	22
2	WEST BRANCH SHUTTLE #2	11	20:00				2	19	1337	1679	19
2	CADILLAC SHUTTLE #1	22	20:00				1	22	1629	1978	22
2	CADILLAC SHUTTLE #2	5	20:00				2	23	1675	2022	23
2	CADILLAC SHUTTLE #3	7	20:00				1	14	937	1091	14
2	HUNTINGTON SHUTTLE #1	13	20:00				3	12	517	746	12
2	HUNTINGTON SHUTTLE #2	19	20:00				1	22	1663	824	22
8	3253A	12	04:00				1	19	1425	1055	19
8	3255A	12	04:00				1	9	562	775	9
8	3263A	14	04:00				1	7	382	537	7
TOTAL							39	342	20458	24012	342

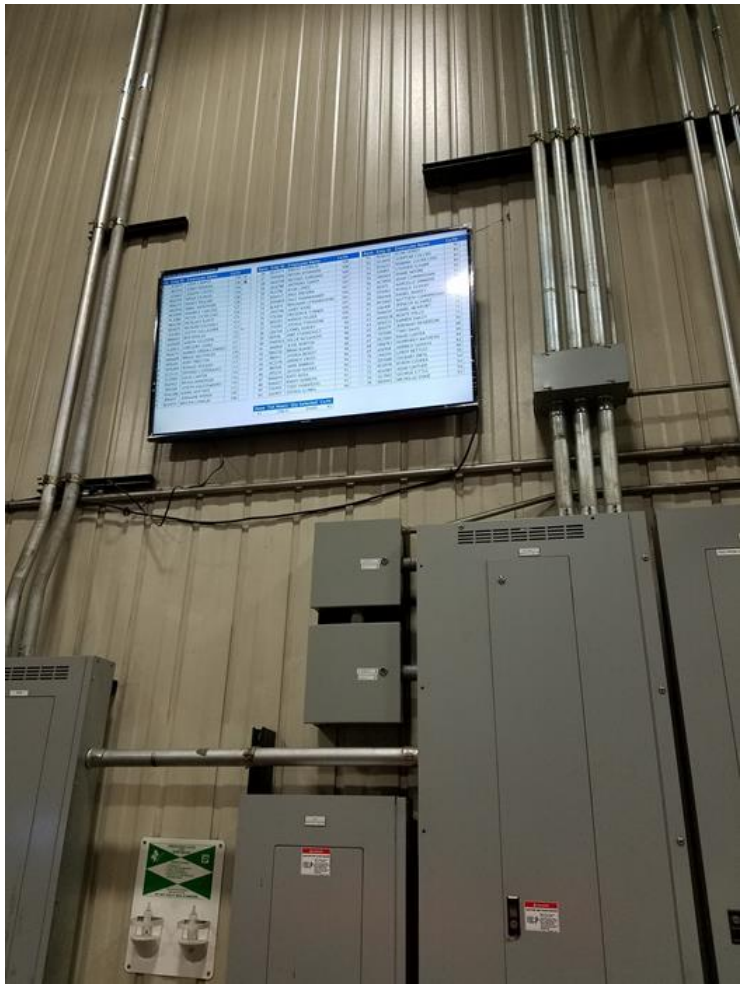
Warehouse TVs

Data as of: 01/01/2017 8:46:53PM

Rank	Emp ID	Employee Name	Cs/Hr
1	CS4990		161
2	JD6268		141
3	JS3770		129
4	SW4741		127
5	DL6223		124
6	AC5850		122
7	AC5318		121
8	MC4302		121
9	SA6400		114
10	JM6610		112
11	MM4225		108
12	JC5879		108
13	JP6437		107
14	RD6373		103
15	MS972		102
16	JB6745		94
17	JR5733		92
18	KP6441		92
19	LK6764		91
20	JP6553		91
21	RR6528		90
22	LS5272		90
23	AC6483		89
24	CB6737		89
25	JG6403		89

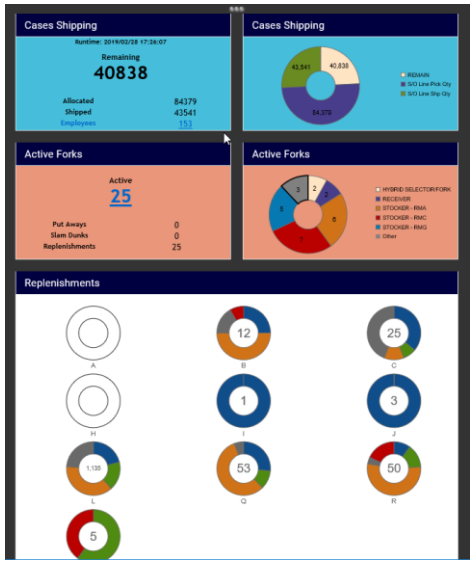
Rank	Emp ID	Employee Name	Cs/Hr
26	AG6602		87
27	MG5908		86
28	GC6692		81
29	ZM6668		80
30	KV6684		80
31	ZZ6713		80
32	NK6736		76
33	DH6810		73
34	BS6759		73
35	JC6637		72
36	EH6782		71
37	HM6763		70
38	JC6663		70
39	CK5035		69
40	TL6818		68
41	KC6780		68
42	MG6711		66
43	RL6796		66
44	PV6688		65
45	DN6659		65
46	ET6658		64
47	LD6740		63
48	MW6638		62
49	MF6761		62
50	BD6662		62

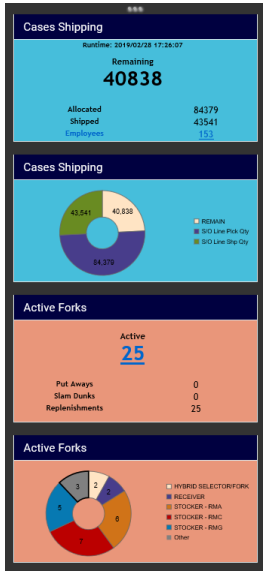
Rank	Emp ID	Employee Name	Cs/Hr
51	RB5671		61
52	AG6788		61
53	BM6605		60
54	MC6665		59
55	HF6240		59
56	JW6798		58
57	AM6797		57
58	DB6738		55
59	BB6601		54
60	LK6294		53
61	RT6841		52
62	JM6715		52
63	GJ6812		52
64	SK6811		51
65	AS6815		50
66	NS6830		46
67	AP6785		45
68	ED6849		43
69	JG6481		43
70	NW6837		41
71	CS6828		40
72	JD6846		40
73	DD6533		40
74	RM6839		39
75	RF757		38

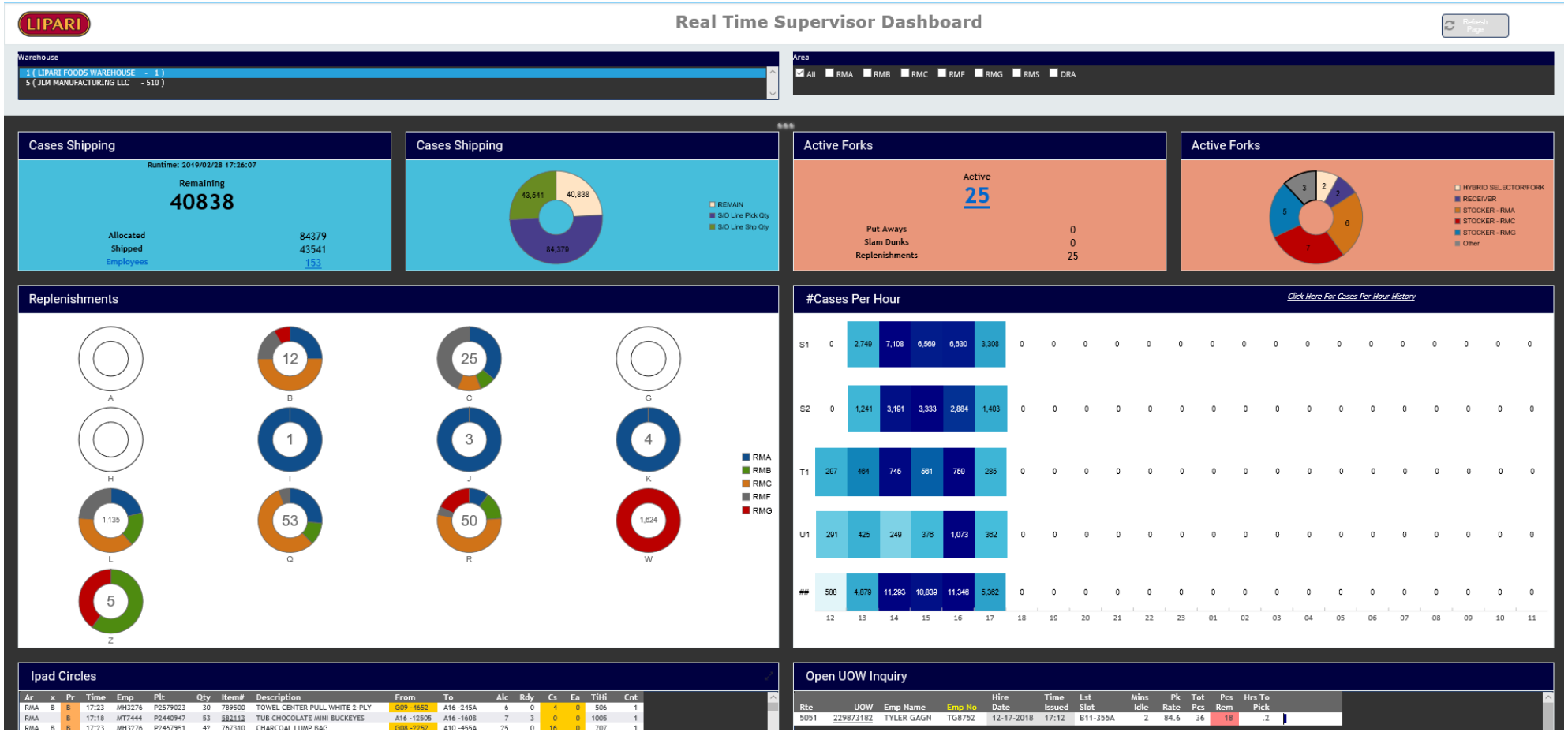


Warehouse Metrics

Used by Mangement on any Device


Cases Shipping
Remaining
40838
Allocated 84379
Shipped 43541
Employees 153
Cases Shipping
Active Forks
Active
25
Put Aways 0
Slam Dunks 0
Replenishments 25
Active Forks
Replenishments
12
25
1
3
53
50
5


Cases Shipping
Remaining
40838
Allocated 84379
Shipped 43541
Employees 153
Cases Shipping
Active Forks
Active
25
Put Aways 0
Slam Dunks 0
Replenishments 25
Active Forks


LIPARI
Real Time Supervisor Dashboard
Refresh Page
Warehouse
1 (LIPARI FOODS WAREHOUSE - 1)
5 (JLM MANUFACTURING LLC - 510)
Area
All RMA RMB RMC RMF RMG RMS DRA
Cases Shipping
Runtime: 2019/02/28 17:26:07
Remaining
40838
Allocated 84379
Shipped 43541
Employees 153
Cases Shipping
43,541
40,838
84,379
REMAIN
S/O Line Pick Qty
S/O Line Shp Qty
Active Forks
Active
25
Put Aways 0
Slam Dunks 0
Replenishments 25
Active Forks
HYBRID SELECTOR/FORK
RECEIVER
STOCKER - RMA
STOCKER - RMC
STOCKER - RMG
Other
Replenishments
A
12
B
25
C
G
H
1
I
3
J
4
K
1,135
L
53
Q
50
R
1,624
W
5
Z
RMA
RMB
RMC
RMF
RMG
#Cases Per Hour
Click Here For Cases Per Hour History
S1 0 2,749 7,108 6,569 6,630 3,308
S2 0 1,241 3,191 3,333 2,884 1,403
T1 297 464 745 561 759 285
U1 291 425 249 376 1,073 362
588 4,879 11,293 10,839 11,346 5,362
12 13 14 15 16 17 18 19 20 21 22 23 01 02 03 04 05 06 07 08 09 10 11
Ipad Circles
Ar x Pr Time Emp Plt Qty Item# Description From To Alc Rdy Cs Ea TiHi Cnt
RMA B B 17:23 MH3276 P2579023 30 789500 TOWEL CENTER PULL WHITE 2-PLY Q09 -4652 A16 -245A 6 0 4 0 506 1
RMA B 17:18 MT7444 P2440947 53 582111 TUB CHOCOLATE MINI BUCKEYES A16 -12505 A16 -160B 7 3 0 0 1005 1
Open UOW Inquiry
Rte UOW Emp Name Emp No Hire Date Time Issued Lst Slot Mins Idle Pk Rate Tot Pcs Pcs Rem Hrs To Pick
5051 229873182 TYLER GAGN TG8752 12-17-2018 17:12 B11-355A 2 84.6 36 18 .2

Supply Chain 101 Metrics

The Top 12: The most commonly used DC metrics

Metric	2016 Rank	2015 Rank
1. Average warehouse capacity used	2	6
2. Order picking accuracy (% by order)	3	5
3. On-time shipments	1	1
4. Peak warehouse capacity used	7	7
5. Part-time workforce to total workforce	-	-
6. Overtime hours to total hours	-	-
7. Contract employees to total workforce	-	-
8. On-time ready to ship	12	-
9. Cross-trained percentage	-	-
10. Inventory count accuracy by dollars per unit	-	-
11. % of supplier orders received damage-free	6	10
12. Order fill rate	10	-

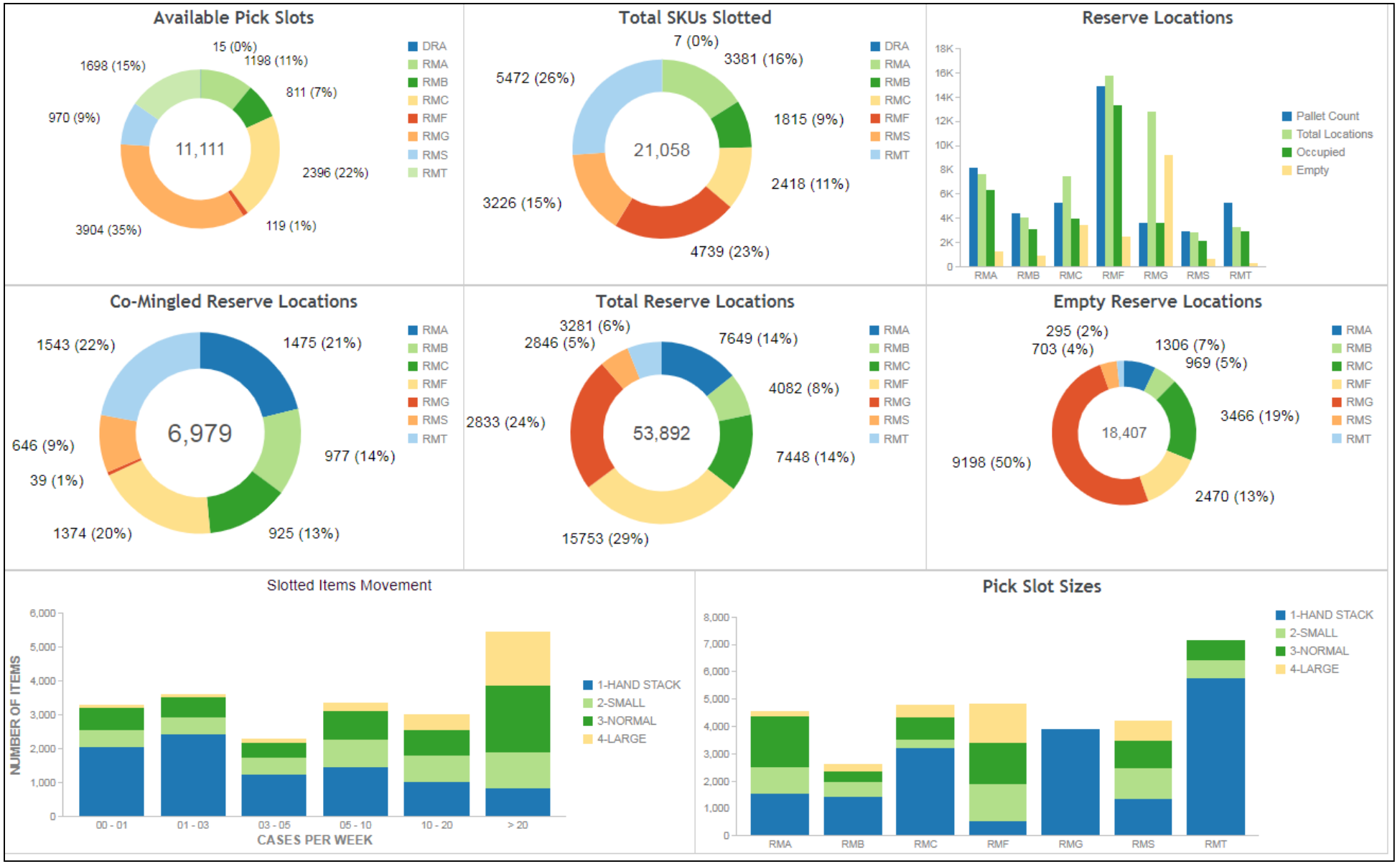
Dealing with food trends

- Kosher / Halal / All Natural / Organic / Ethnic / Low Carb / Gluten Free / Peanut Free
- Over 100 New SKUs weekly

Potato Chips are no longer made from potatoes

Whs Capacity

Information Builders



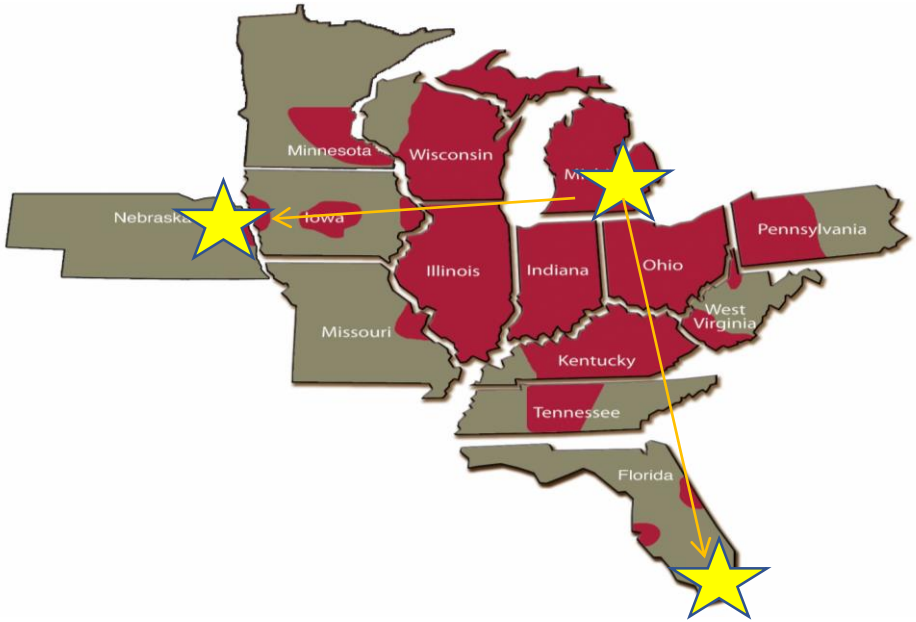
Optimal Product Placement (Store)

Optimal Product Placement (Warehouse)

GOLDEN ZONE

MisPick | Damage | Short

Detroit to Omaha 746 Miles
Detroit to Miami 1,419 Miles



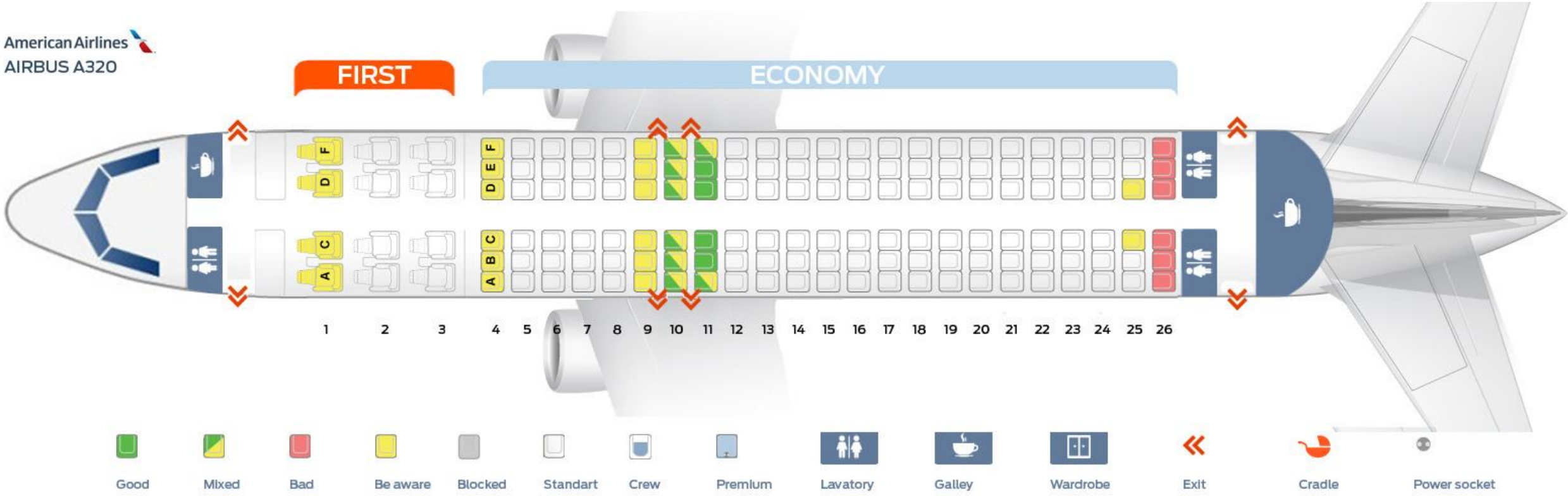
Product and Location Attributes

- Weight
- Movement / Number Of visits
- Size of the case
- Cost / Damage Prone
- Hazard Items (Cleaning Supplies)
- Cross-Contamination (Peanuts / Fresh Chicken)

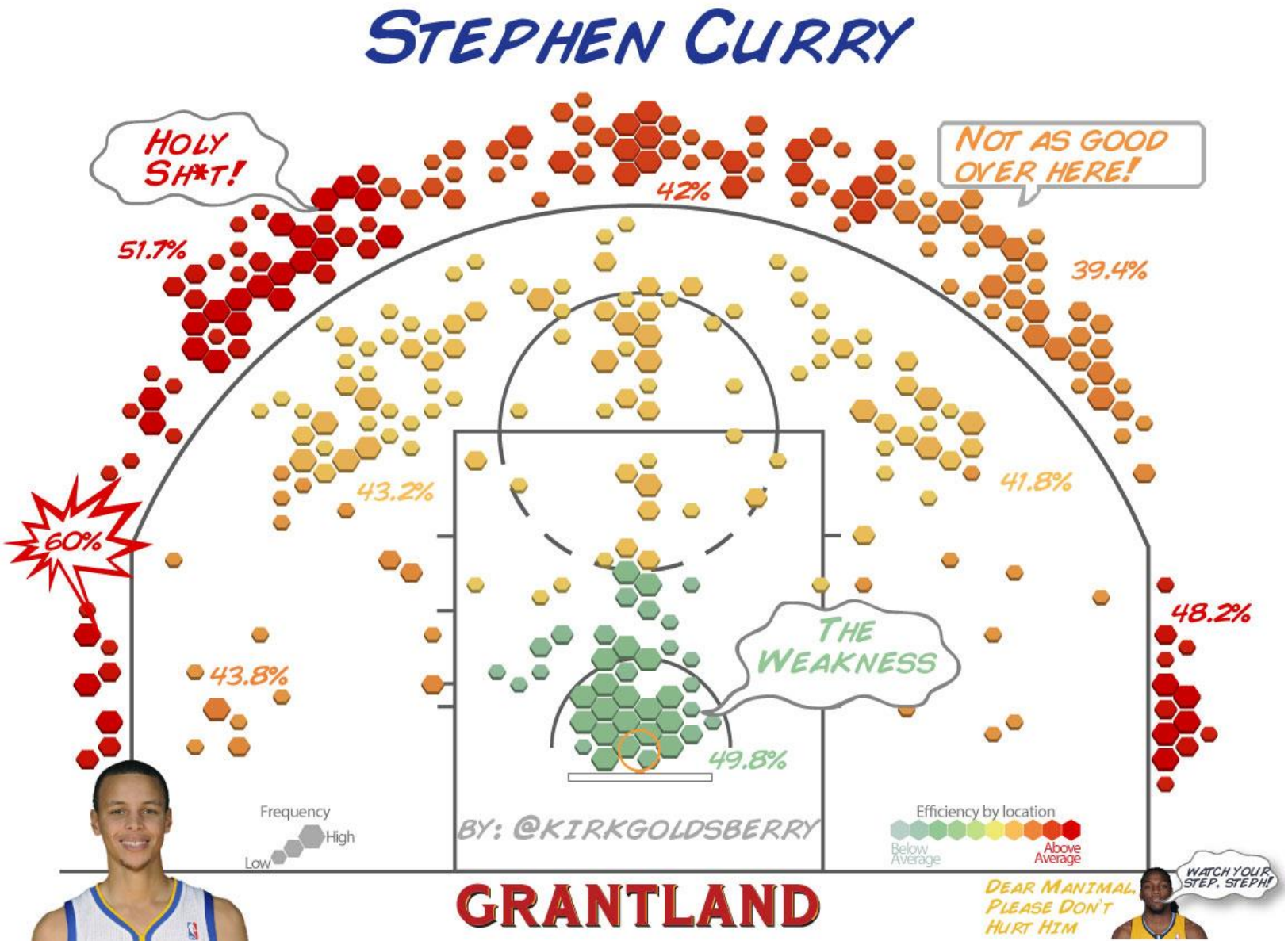
Inspiration – Booking Travel Experience of Purchase

Top Down view – Airplane Analysis

- Highest Average seat cost
- Most Unsold seat
- Highest Potential for Conflict



Geospatial Score Board Defense 101…



Partnership

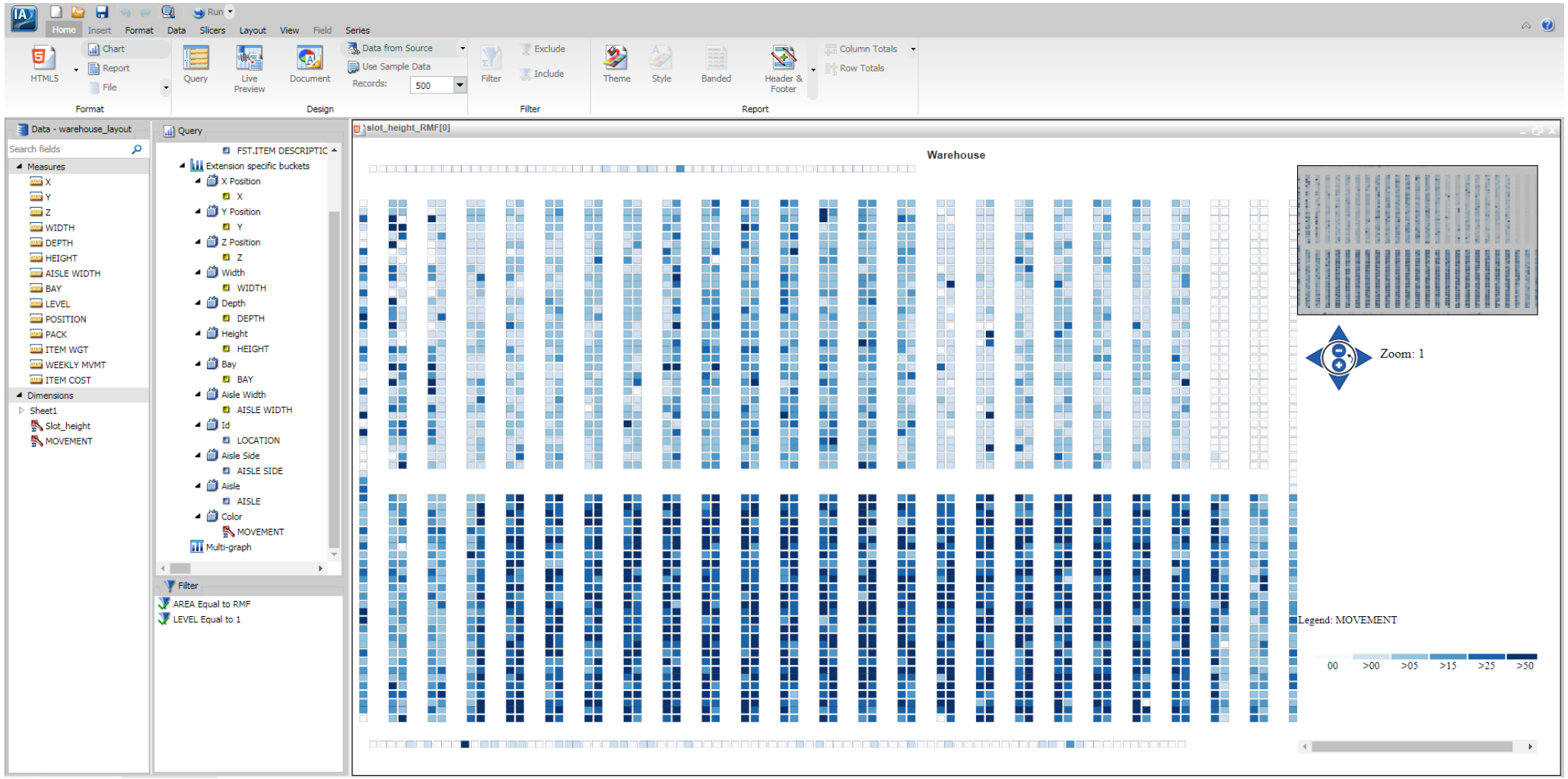
LIPARI

Information Builders

IBM

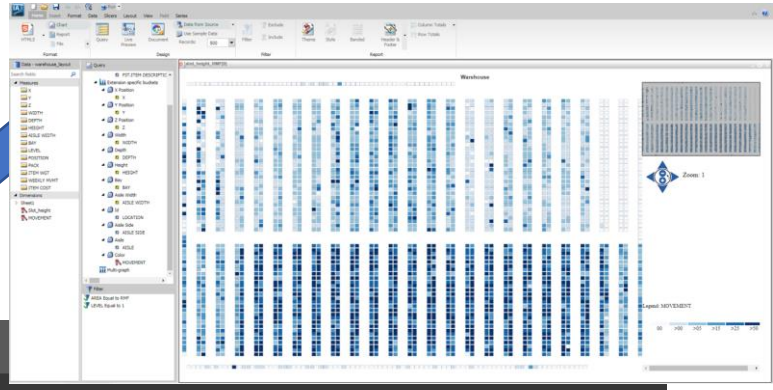
erwin
the data governance company

Real Time Data
Analysis on ANY data element
Drill Down anywhere
Existing infrastructure for development
No additional licenses



Warehouse Map – Aisle |Slots|Product

Strong Partnership with BI Vendor



or for Warehouse Operations

Warehouse Metrics | Visual Warehouse | InfoApp +

Date/Time: 01/26/2018 14:48:28 Warehouse: All Building: All

RMA-Refrigerated RMB-Refrigerated RMC-Refrigerated RMF-Frozen RMG-Dry

Total Reserve Locations
8.8k
All Areas **45.4k** % Total **19.4**

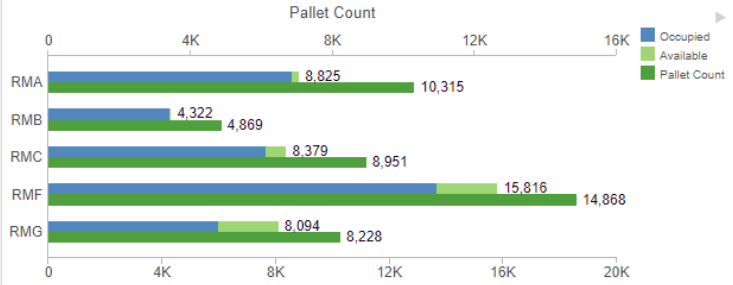
RMA-Refrigerated RMB-Refrigerated RMC-Refrigerated RMF-Frozen RMG-Dry

Co-Mingled Reserve Locations
1.6k
All Areas **5.7k** % Total **27.4**

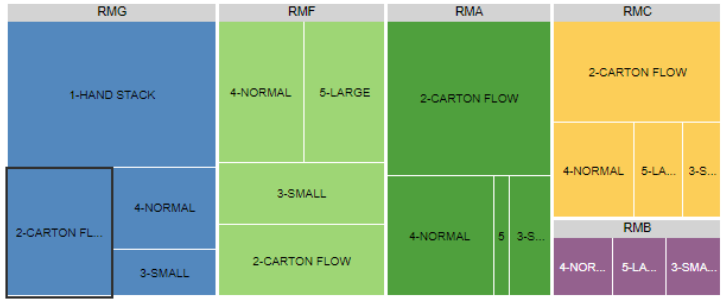
RMA-Refrigerated RMB-Refrigerated RMC-Refrigerated RMF-Frozen RMG-Dry

Empty Reserve Locations
180
All Areas **6.1k** % Total **3**

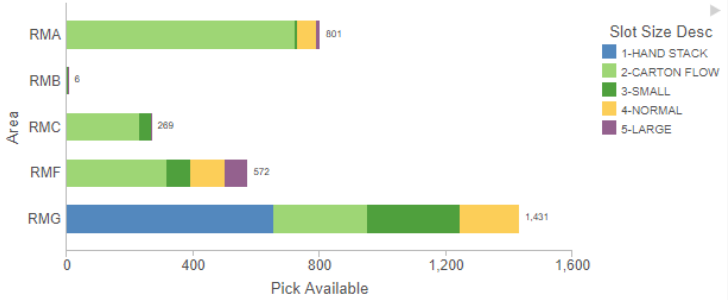
Reserve Locations



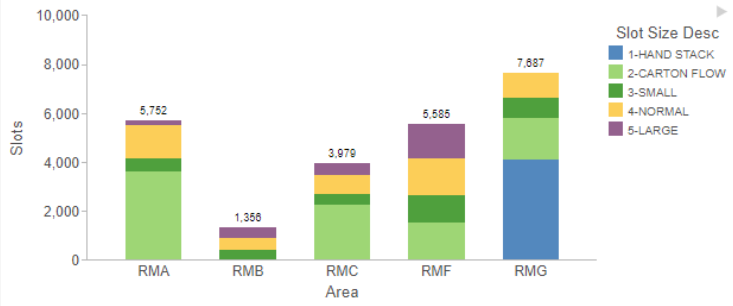
Total Items Slotted



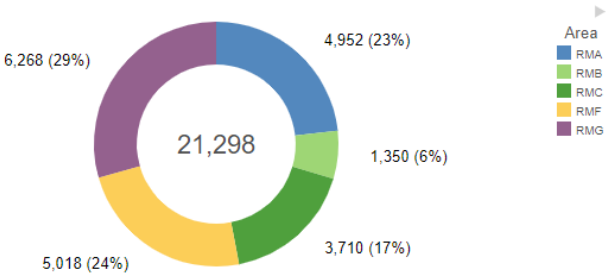
Available Pick Slots



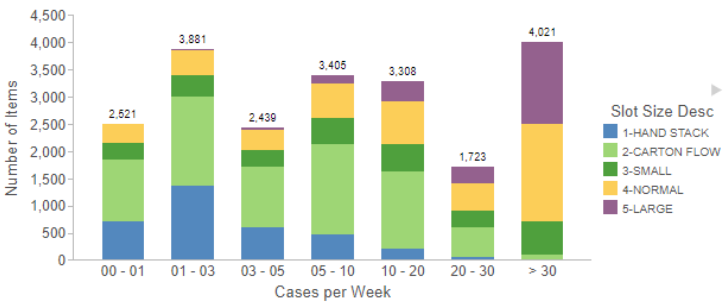
Pick Slot Sizes

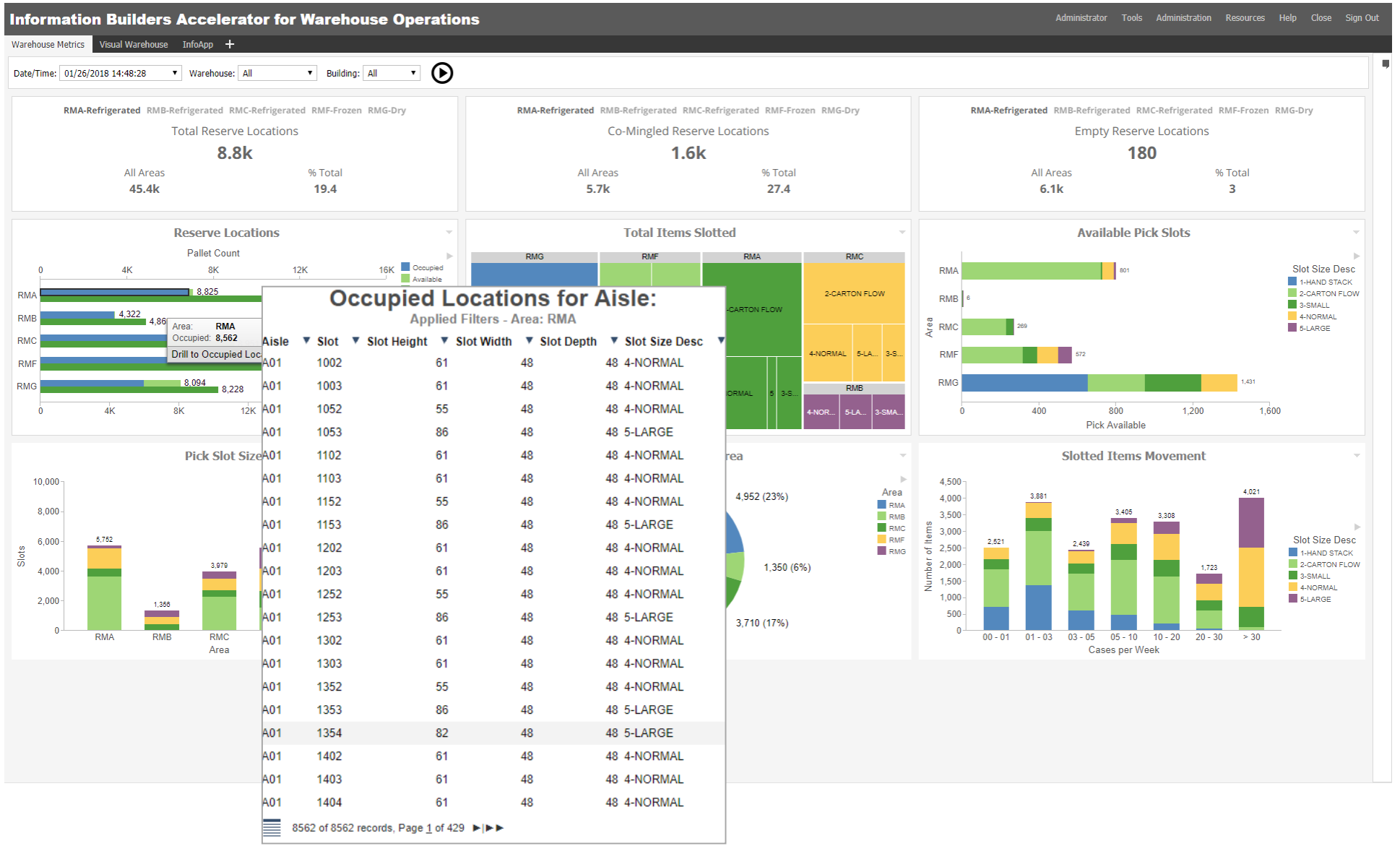


Items Slotted by Area

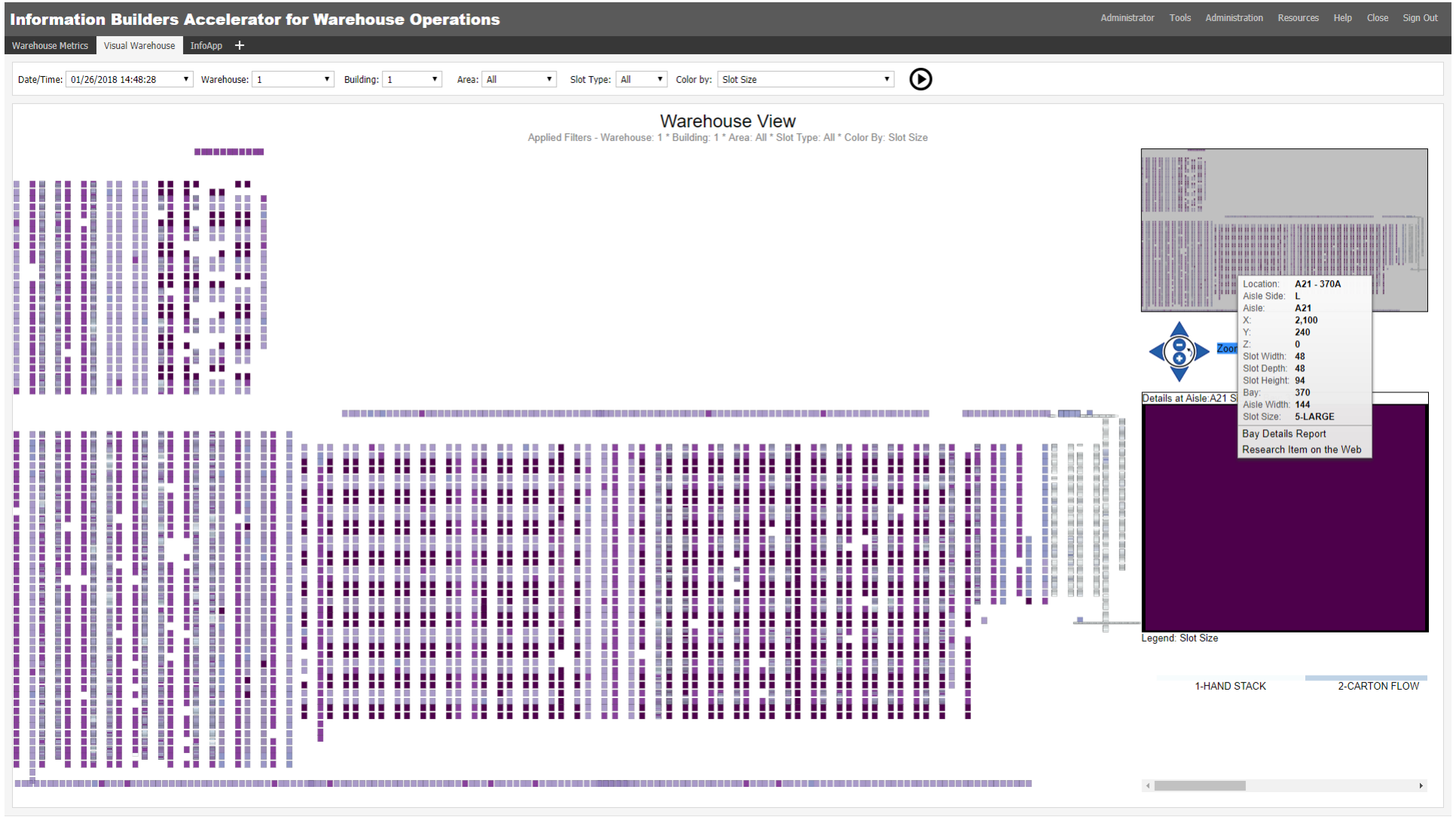


Slotted Items Movement

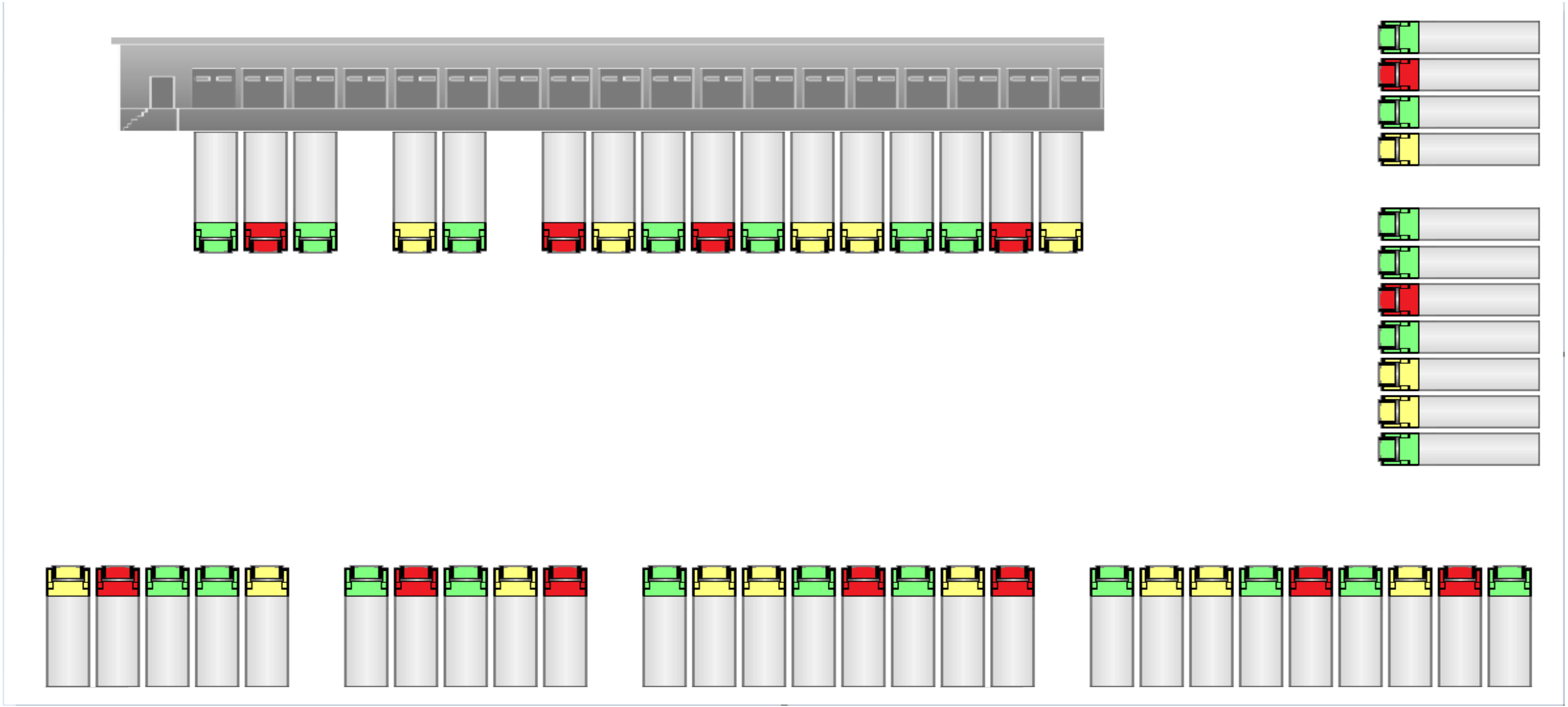



Information Builders Accelerator for Warehouse Operations
Administrator Tools Administration Resources Help Close Sign Out
Warehouse Metrics Visual Warehouse InfoApp +
Date/Time: 01/26/2018 14:48:28 Warehouse: All Building: All
RMA-Refrigerated RMB-Refrigerated RMC-Refrigerated RMF-Frozen RMG-Dry
Total Reserve Locations
8.8k
All Areas 45.4k
% Total 19.4
RMA-Refrigerated RMB-Refrigerated RMC-Refrigerated RMF-Frozen RMG-Dry
Co-Mingled Reserve Locations
1.6k
All Areas 5.7k
% Total 27.4
RMA-Refrigerated RMB-Refrigerated RMC-Refrigerated RMF-Frozen RMG-Dry
Empty Reserve Locations
180
All Areas 6.1k
% Total 3
Reserve Locations
Pallet Count
Occupied
Available
RMA
RMB
RMC
RMF
RMG
8,825
4,322
8,094
8,228
Area: RMA
Occupied: 8,562
Drill to Occupied Loc
Total Items Slotted
RMG
RMF
RMA
RMC
2-CARTON FLOW
4-NORMAL
RMB
Available Pick Slots
Area
Pick Available
Slot Size Desc
1-HAND STACK
2-CARTON FLOW
3-SMALL
4-NORMAL
5-LARGE
Pick Slot Size
Slots
Area
Slotted Items Movement
Number of Items
Cases per Week
00 - 01
01 - 03
03 - 05
05 - 10
10 - 20
20 - 30
> 30
4,952 (23%)
1,350 (6%)
3,710 (17%)
Occupied Locations for Aisle:
Applied Filters - Area: RMA
Aisle Slot Slot Height Slot Width Slot Depth Slot Size Desc
A01 1002 61 48 48 4-NORMAL
A01 1003 61 48 48 4-NORMAL
A01 1052 55 48 48 4-NORMAL
A01 1053 86 48 48 5-LARGE
A01 1102 61 48 48 4-NORMAL
A01 1103 61 48 48 4-NORMAL
A01 1152 55 48 48 4-NORMAL
A01 1153 86 48 48 5-LARGE
A01 1202 61 48 48 4-NORMAL
A01 1203 61 48 48 4-NORMAL
A01 1252 55 48 48 4-NORMAL
A01 1253 86 48 48 5-LARGE
A01 1302 61 48 48 4-NORMAL
A01 1303 61 48 48 4-NORMAL
A01 1352 55 48 48 4-NORMAL
A01 1353 86 48 48 5-LARGE
A01 1354 82 48 48 5-LARGE
A01 1402 61 48 48 4-NORMAL
A01 1403 61 48 48 4-NORMAL
A01 1404 61 48 48 4-NORMAL
8562 of 8562 records, Page 1 of 429

Information Builders

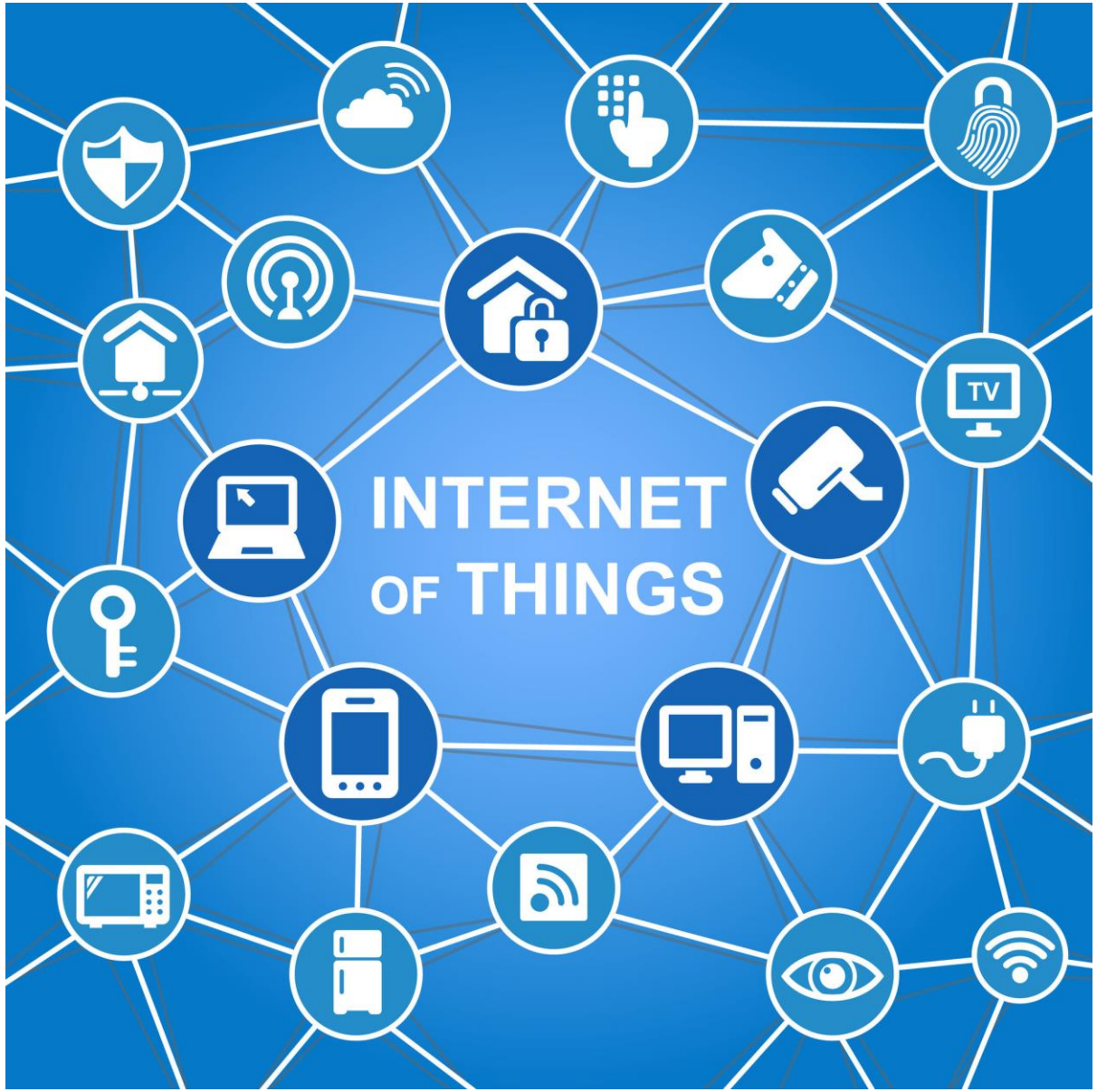


What else is possible to visualize…



More than just XY Plots in the near Future

Reality of Data 80’s|90’s|00’s



Sensors Everywhere

2018+ Data is everywhere!

Truck Speed

Temperature

Seatbelt Click

Arrival Notice

Off Track

Idle Time

Correct Product

Number of Cases

Speed

Case Weight

Distance Travelled

Equipment Utilization

Standing Not Moving

2018+ Order Selection | Transportation Data

OBJECTIF LUNE

Information Builders

KONICA MINOLTA

SAMSUNG

Telogis
A Verizon Company

syntelic

Crown InfoLink

SOTI

KRONOS

Vocollect by Honeywell

NCR

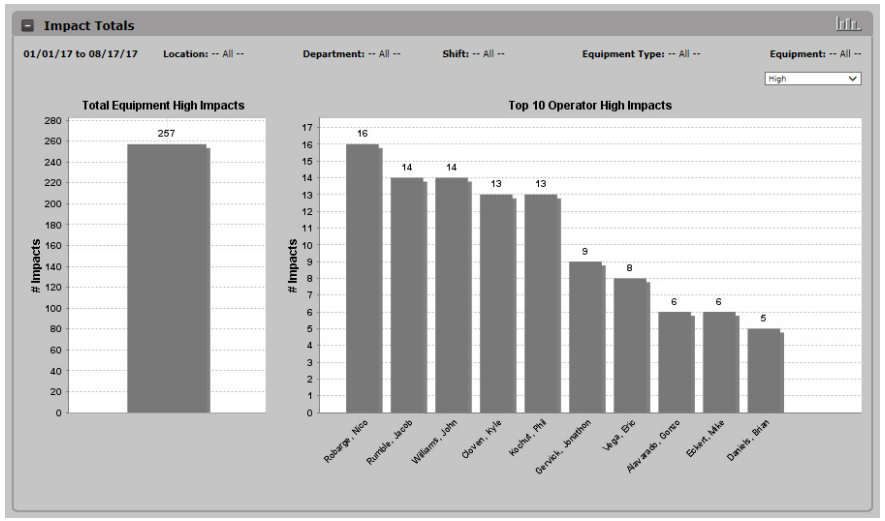
Retalix

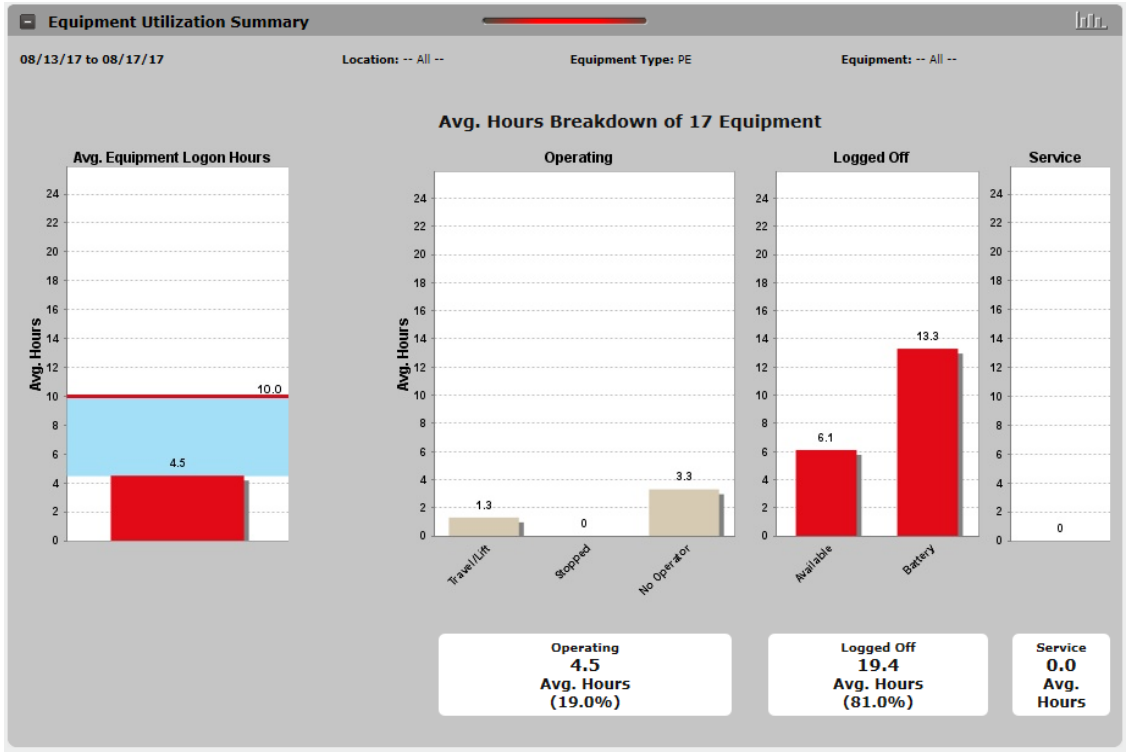
IBM

RoadNet Transportation Suite ups

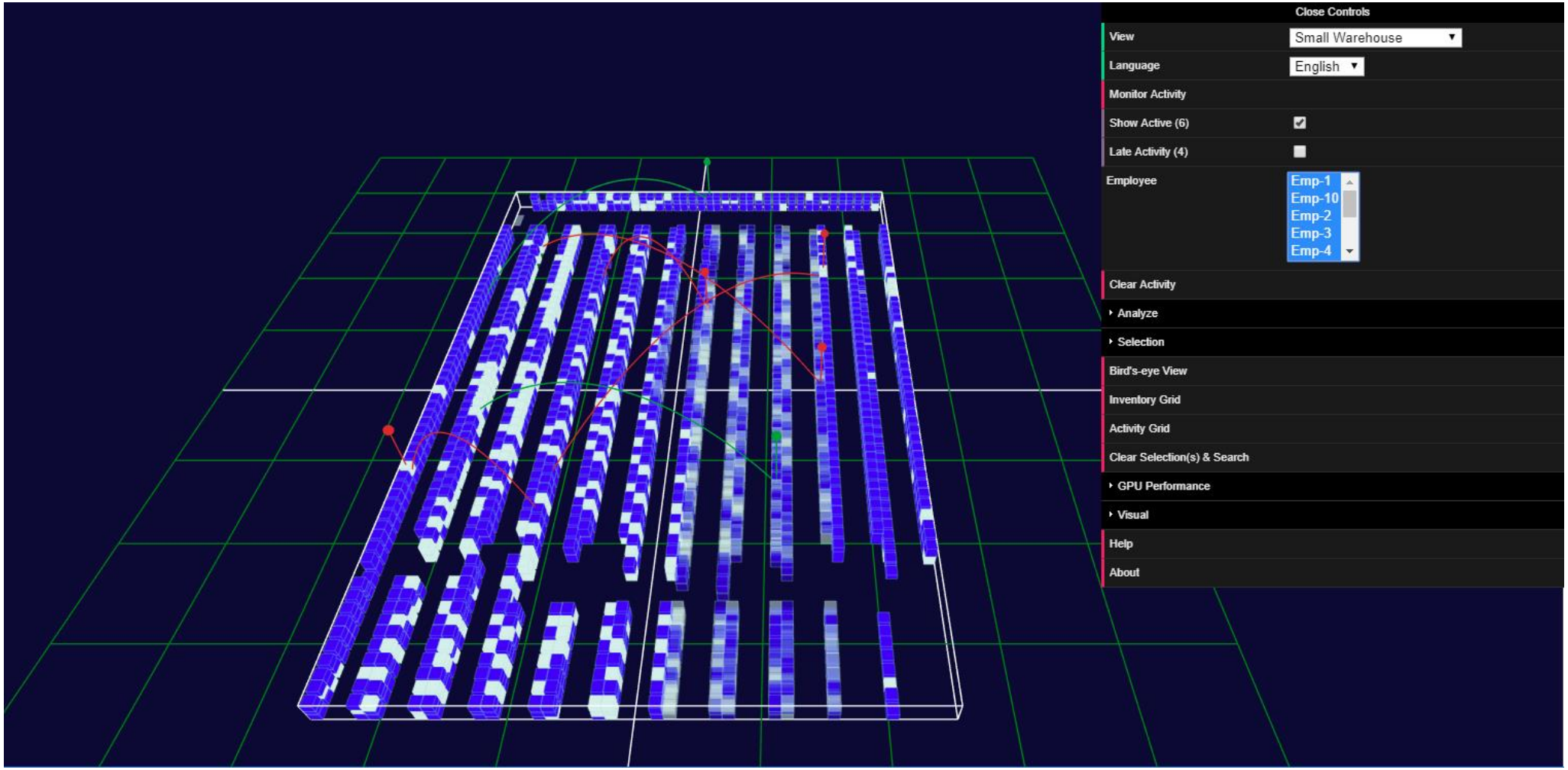
Honeywell

Packaged Dashboards – Not Good Enough…



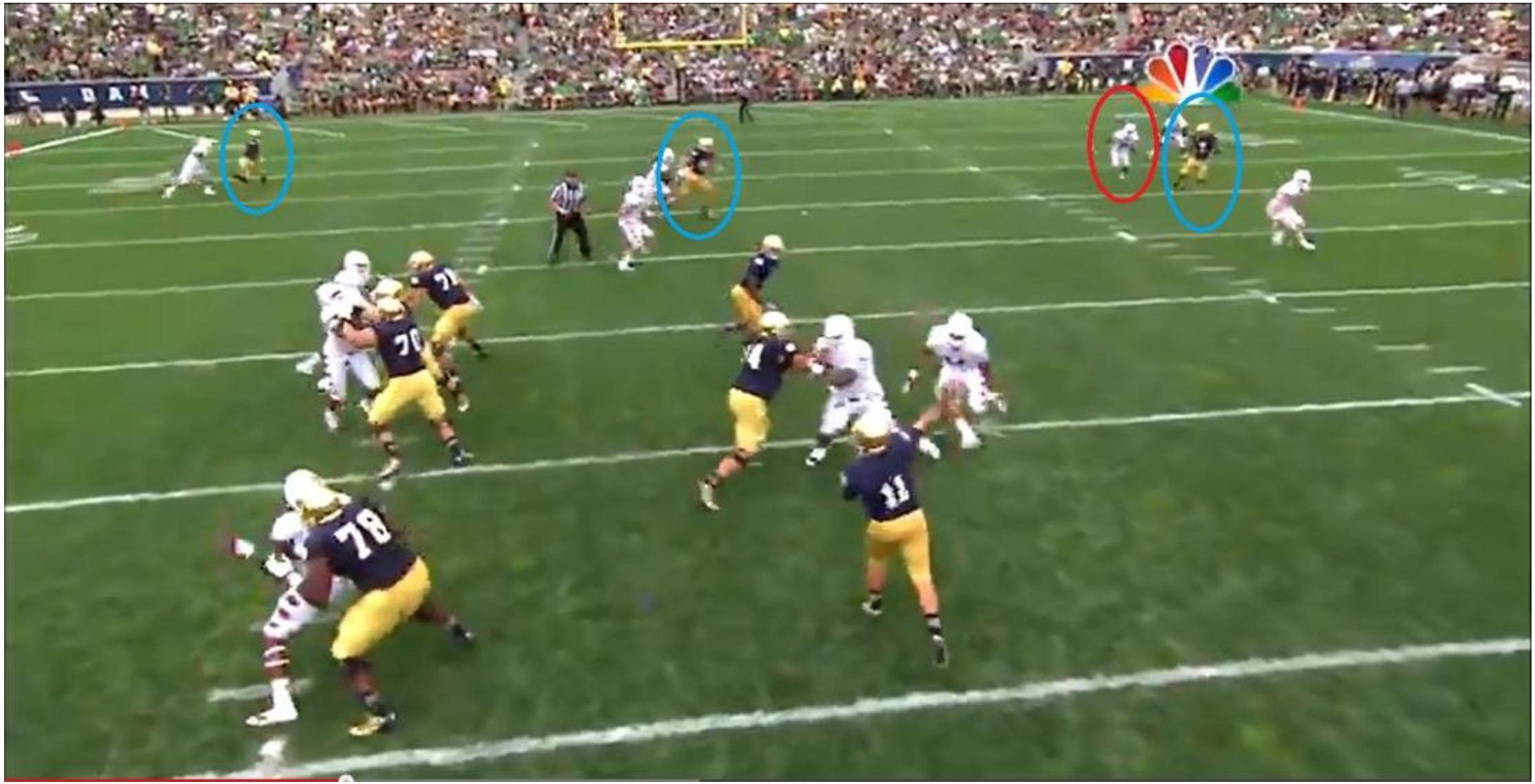


BI App – Quick Demo



New Technologies –
Demand More Integration from software partners

Smarter with Augmented Reality (AR) – Works On Saturday ..



T06
010.2
3x
T07
022.1
1
1
1
RICOH

Analytics Makes Our Warehouse Managers Smarter

Questions?

Joe@liparifoods.com

GREAT LAKES
BUSINESS INTELLIGENCE
& BIG DATA SUMMIT

Thursday, March 7, 2019 | Metro Detroit

Thank you for attending!

@GreatLakesBI

#GreatLakesBI19

Hosted by: