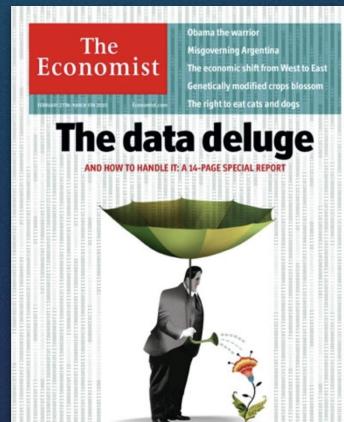
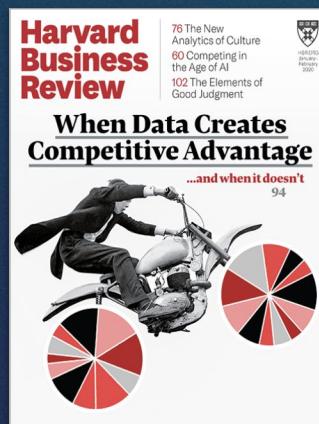


SNOWFLAKE

THE CLOUD DATA PLATFORM



DATA...THE NEW FRONTIER



NEW TECHNOLOGY CHANGES HOW WE USE DATA

Diversification of Analytics



Analytics is growing in importance, everywhere, and for everyone

Explosion of Data



IoT, mobile, and social open up new opportunities for insight

Rise of the Cloud



Cloud gives us the ability to scale and centralize data

TAKING A PLATFORM APPROACH LEADS TO BIG BUSINESS IMPACT

Make Better, Quicker Business Decisions



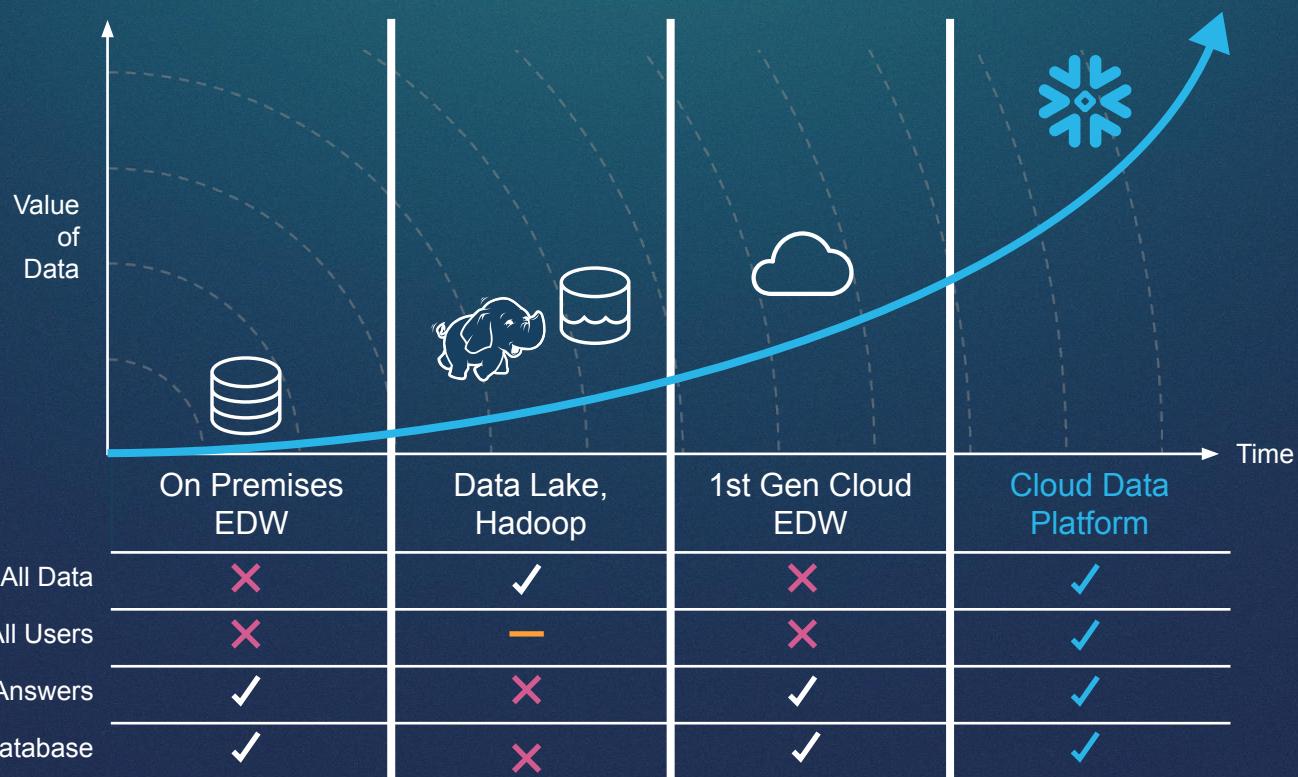
Reduce the Cost of Scaling Data Management and Analytics



Create a Great Customer Experience with Data

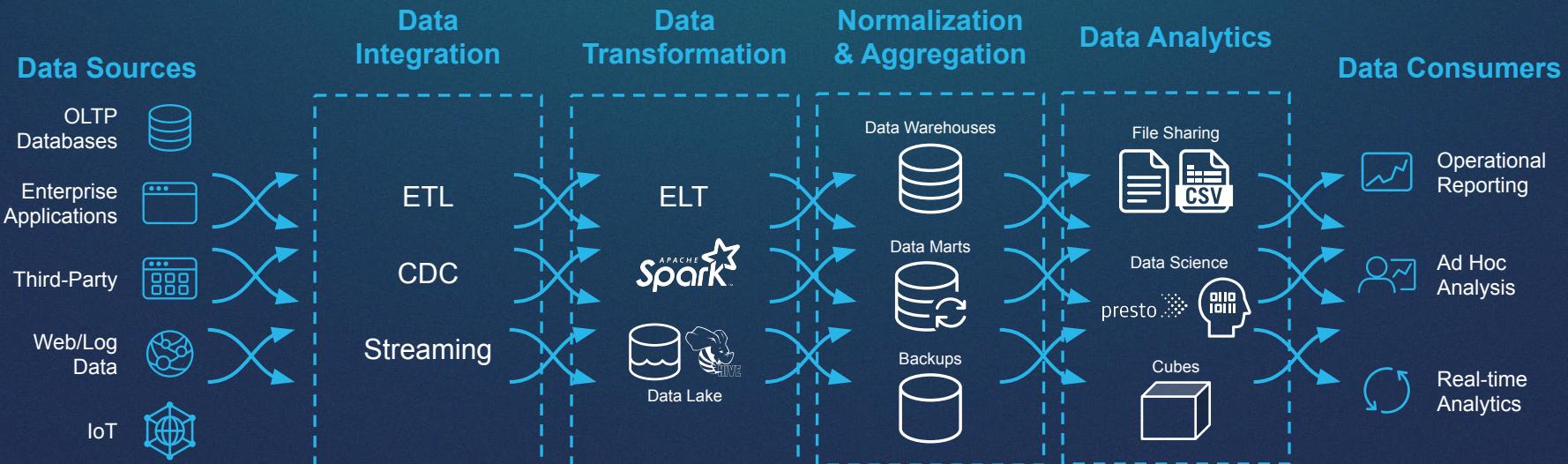


JOURNEY TO A CLOUD DATA PLATFORM



TRADITIONAL DATA ARCHITECTURE

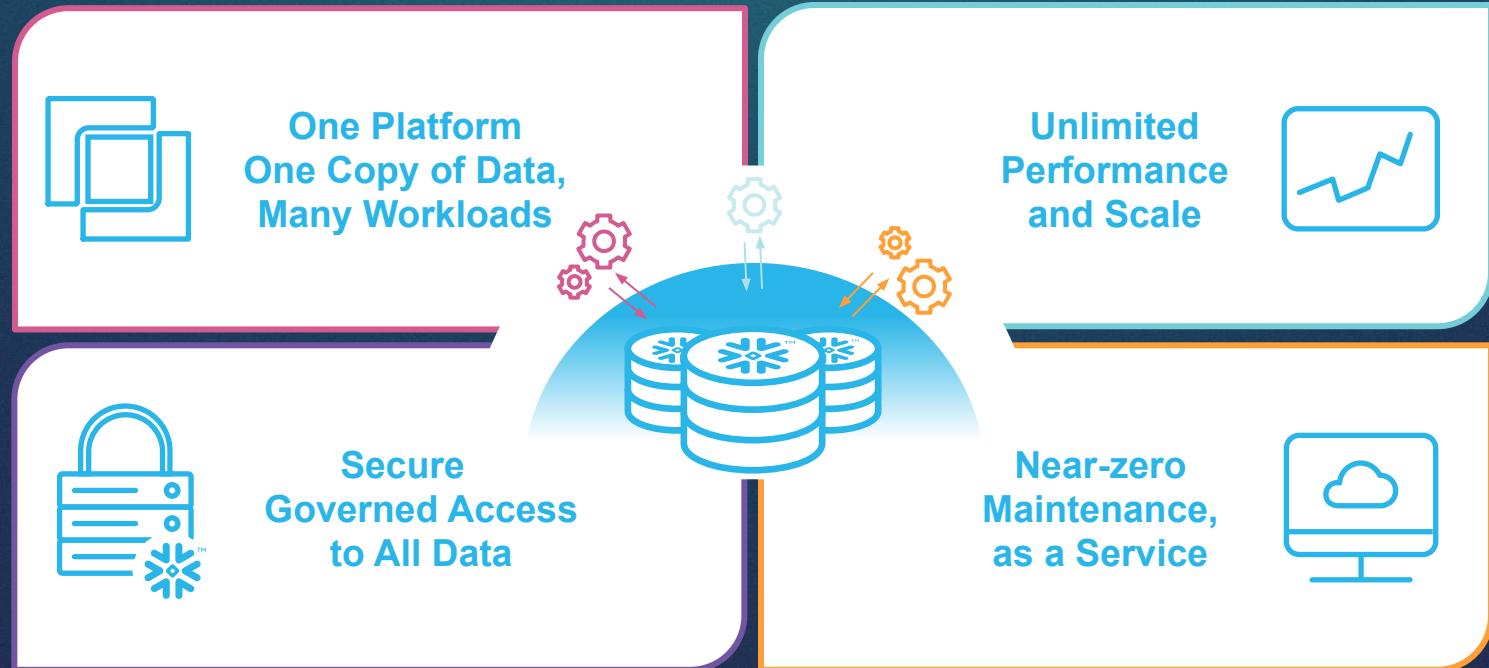
Complex and Costly with Multiple Copies of Data



MODERN DATA ARCHITECTURE WITH SNOWFLAKE



THE VALUE OF A CLOUD DATA PLATFORM



ONE PLATFORM, ONE COPY OF DATA, MANY WORKLOADS



Data Warehouse

Modernize data warehousing to deliver faster analytics at scale



Data Engineering

Rethink transformation with robust and integrated data pipelines



Data Lake

Simplify and accelerate your data lake with one platform for all your data



Data Applications

Develop apps with fast and scalable analytics that delight customers



Data Exchanges

Empower your ecosystem with secure, governed access to all data



Data Science

Simplify and accelerate machine learning and artificial intelligence



THE IMPACT OF A CLOUD DATA PLATFORM



SITUATION

- Shift to the cloud with focus on speed and value
- Managing infrastructure
- Significant governance, regulatory requirements



VALUE

- 60+ analytics teams served by single cloud data platform
- Migrated in < 90 days
- Load speeds improving 86%
- 5x faster complex queries
- Improved governance and democratized insights

Sainsbury's

SITUATION

- Multiple data warehouses, some end-of-life
- Data silos caused ambiguity and reporting disparities
- Poor consumer insight



VALUE

- Diverse data ingested for analytics, data science
- Improved agility, scalability and analytics performance
- In depth customer knowledge and improved services





SITUATION / PAIN

- Painfully slow analytics cycles
- Limited ability to answer complex questions
- Inability to provide business continuity and ensure security



SOLUTION / VALUE

- Hundreds of newly empowered analysts
- Improved scalability and faster query times
- Guaranteed security and data availability, 24/7/365





PROVEN BY OVER 3000 CUSTOMERS



Platform



BI/Analytics



ETL



EVER EXPANDING ECOSYSTEM

Data Science



Services



TECHNICAL DEEP DIVE



HOW IS SNOWFLAKE UNIQUE?



ARCHITECTURE

A CLOSER LOOK

Traditional Architectures



Shared-disk

Additional capacity requires forklift upgrade

Reads/Writes at the same time cripples the system

Replication requires additional hardware



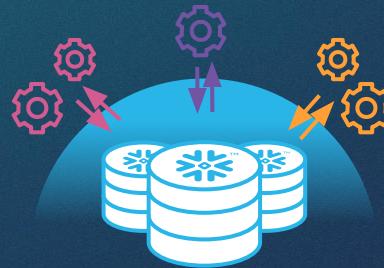
Shared-nothing

Resizing cluster requires redistributing data. Shut down requires unloading.

Each cluster requires its own copy of data (ex: test/dev, HA)

Vacuuming processes needed to maintain sort and distribution for performance

Snowflake



Multi-cluster, shared data

- Centralized, scale-out storage that expands and contracts automatically
- Independent compute clusters can read/write at the same time and resize instantly
- Automated backup across multiple availability zones/regions
- AWS, Azure, GCP



SNOWFLAKE ARCHITECTURE



MODERN DATA ARCHITECTURE WITH SNOWFLAKE CLOUD DATA PLATFORM



ONE PLATFORM, ONE COPY OF DATA, MANY WORKLOADS



Data Warehouse

Modernize data warehousing to deliver faster analytics at scale



Data Engineering

Rethink transformation with robust and integrated data pipelines



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Data Exchanges

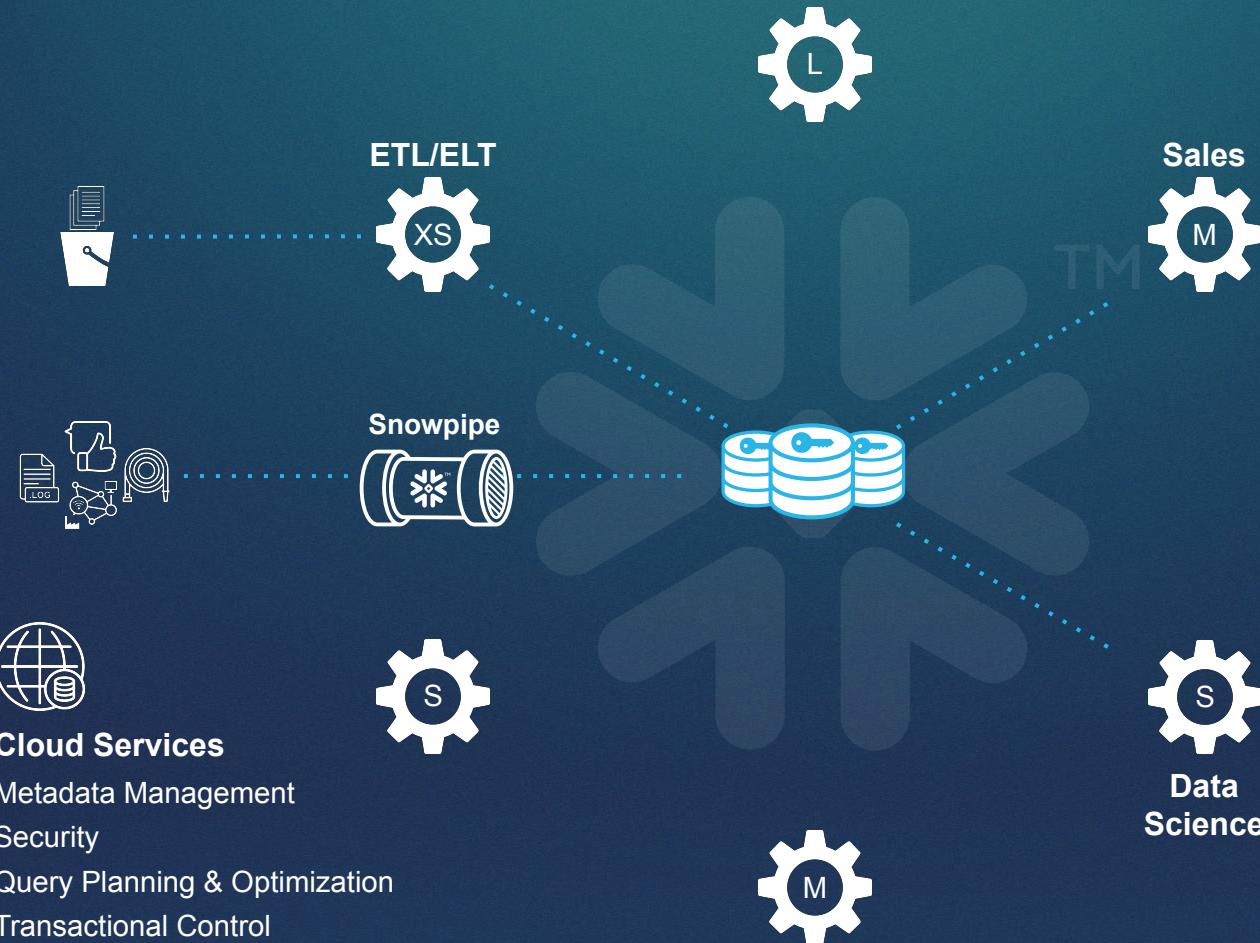
Empower your ecosystem with secure, governed access to all data

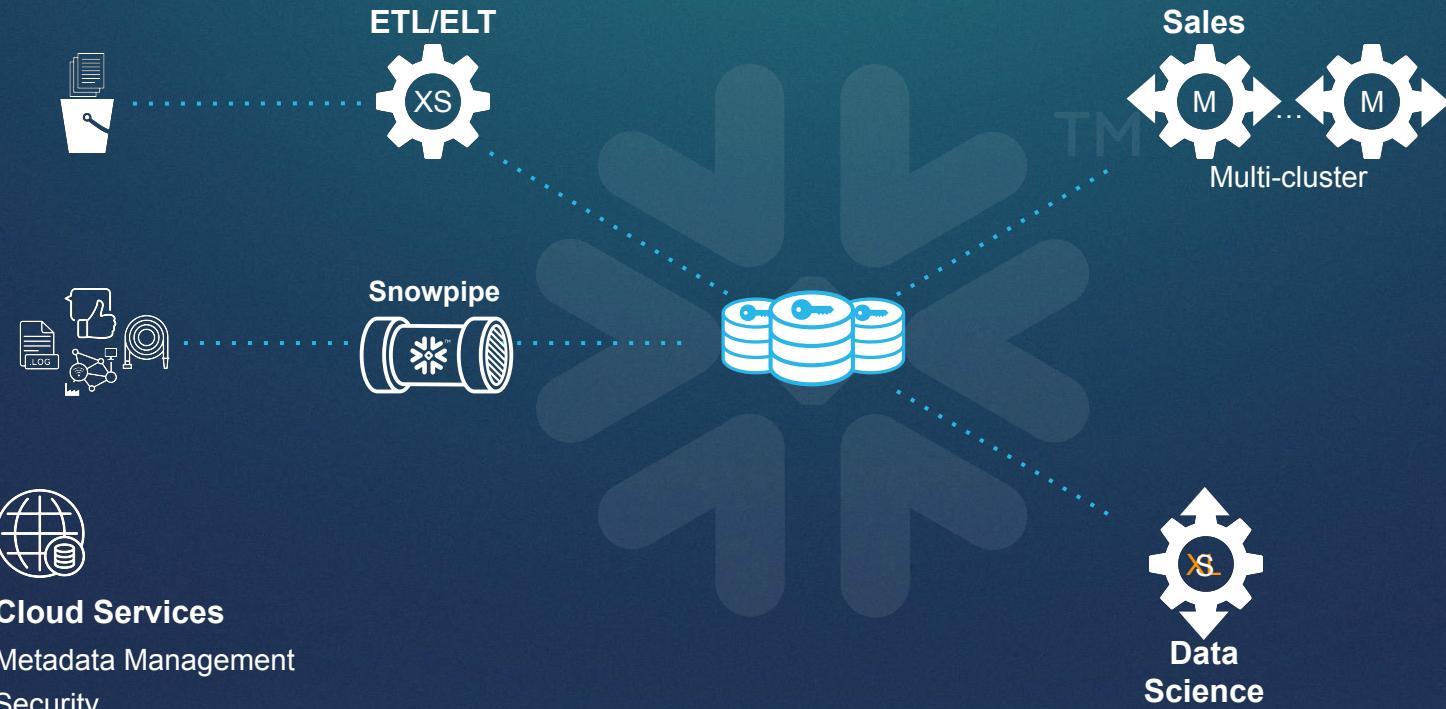


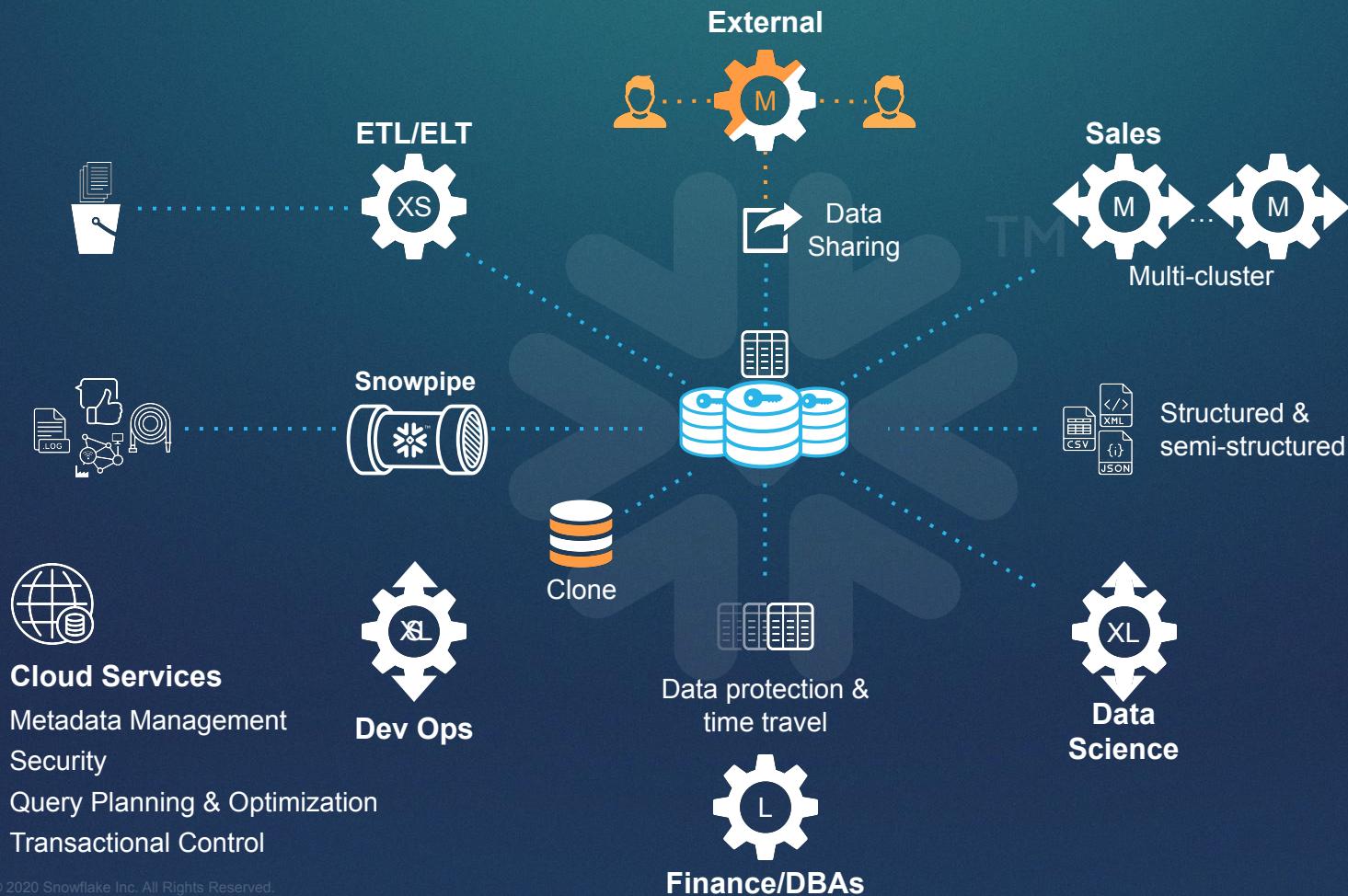
Data Science

Simplify and accelerate machine learning and artificial intelligence









SECURE BY DESIGN, DATA AVAILABILITY

Authentication



- Embedded multi-factor authentication
- Key Pair authentication
- Federated authentication / SSO supported

Access Control



- IP whitelisting
- Roles-based access control model
- Granular privileges on all objects & actions

Data Encryption



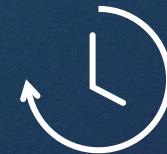
- All data encrypted, always, end-to-end
- Encryption keys managed automatically

External Validation



- Certified against enterprise-class requirements
- PCI and HIPAA available

Data Availability



- User error: Time Travel, Failsafe, Cloning
- Zone failure: Data replicated to multiple zones in a region
- Region/Provider failure: Data replication & failover

MORE ON WORKLOADS



Data
Lake



Data
Exchange



Data
Engineering

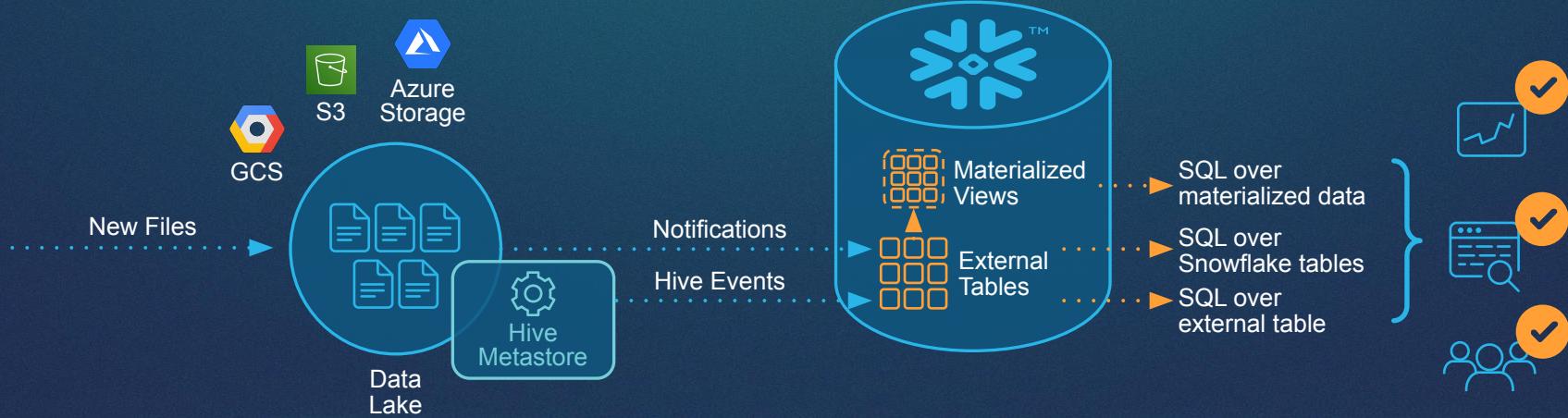


Data
Science

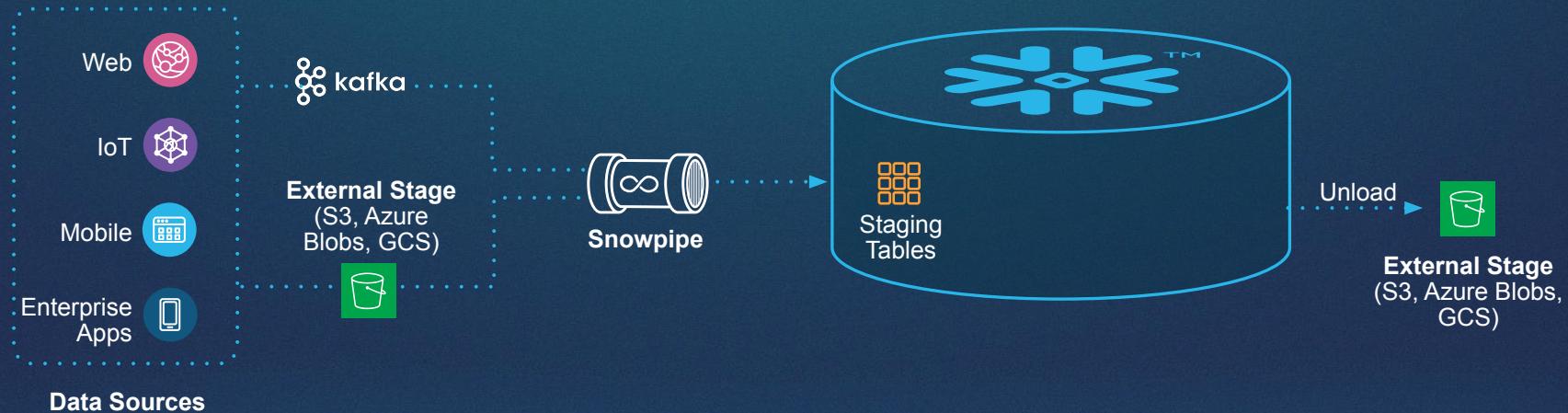
HOW DOES SCALABLE CLOUD DATA PLATFORM ENABLE DATA LAKES?



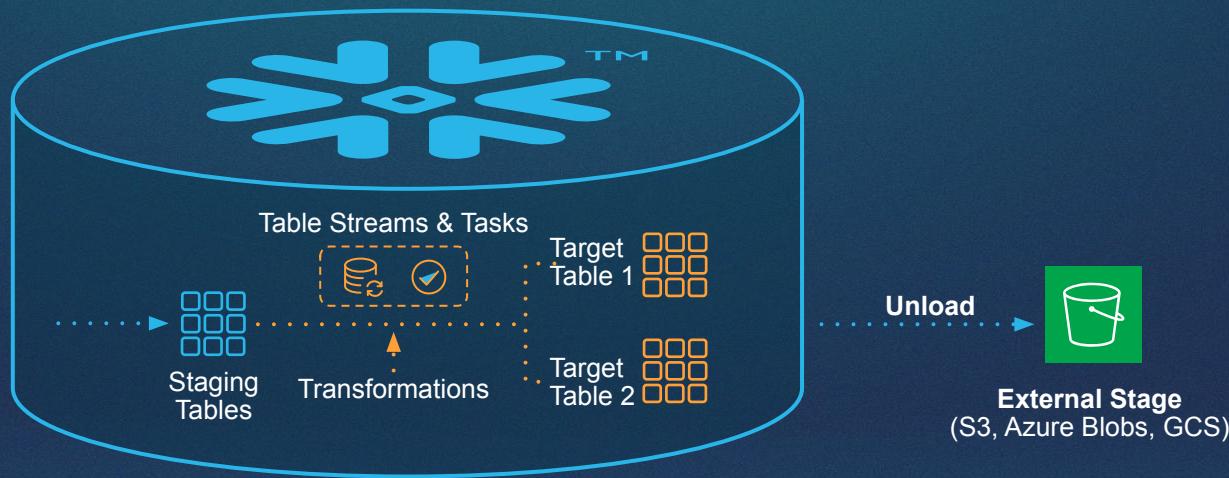
AUGMENTING EXISTING DATA LAKES



LOW LATENCY INGEST

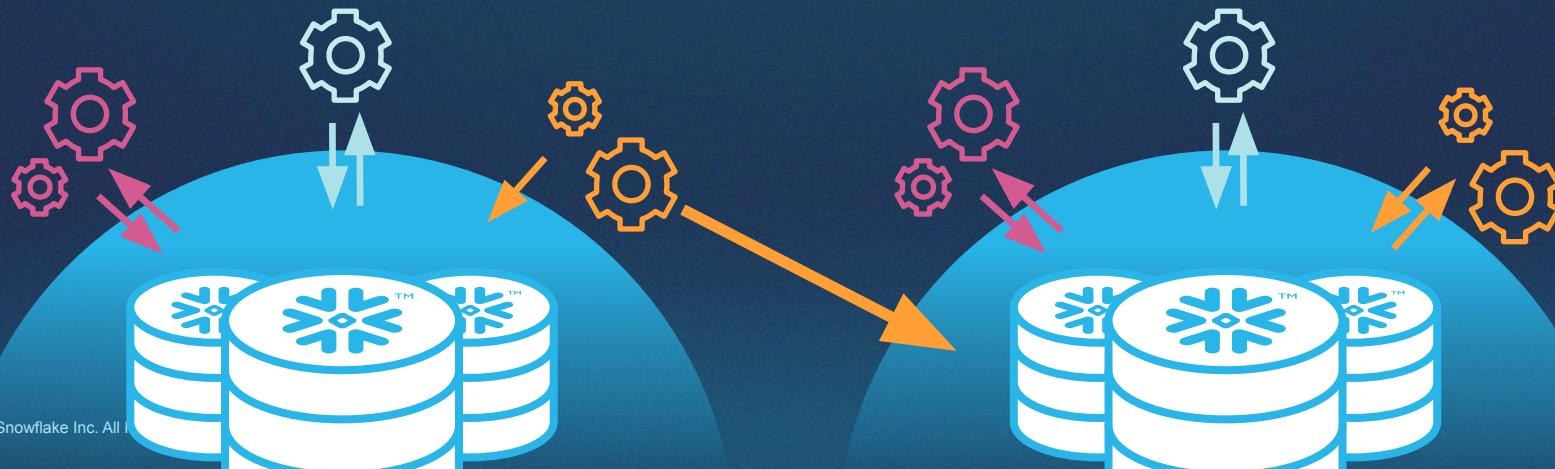


SCALABLE TRANSACTIONAL TRANSFORMATIONS



SECURE DATA SHARING

Secure Live Frictionless Personalized Global



ENABLING AI, ML, AND DATA SCIENCE

- Improving data science speed and efficiency with centralized source of high performance data
- Accelerating data exploration and preparation by 10-100x
- Connectors to leading and emerging technologies
- First class ecosystem of partners



Amazon SageMaker



SPEAKER Q&A



JOIN US AFTER THE BREAK

FROM ZERO TO
Snowflake

in 90 minutes
powered by
aws




THANK YOU

Data for Breakfast



D A N I E L W E L L I N G T O N

OUR JOURNEY TO SNOWFLAKE

Paul Flynn & Jakob Matto

HOOK US UP - WERE IN YOUR COMMUNITY NOW



[pjflynn](#)

[jakobmatto](#)

THE STORY BEHIND

On a trip halfway across the world, founder Filip Tysander met an intriguing British gentleman with impeccable yet unpretentious style. The man had a particular fondness for wearing his vintage watches on old, weathered NATO straps. Inspired by his new acquaintance, Filip created his own line of watches - minimalist and refined. The man's name? Daniel Wellington.





TODAY* WE ARE

2200+
TALENTS

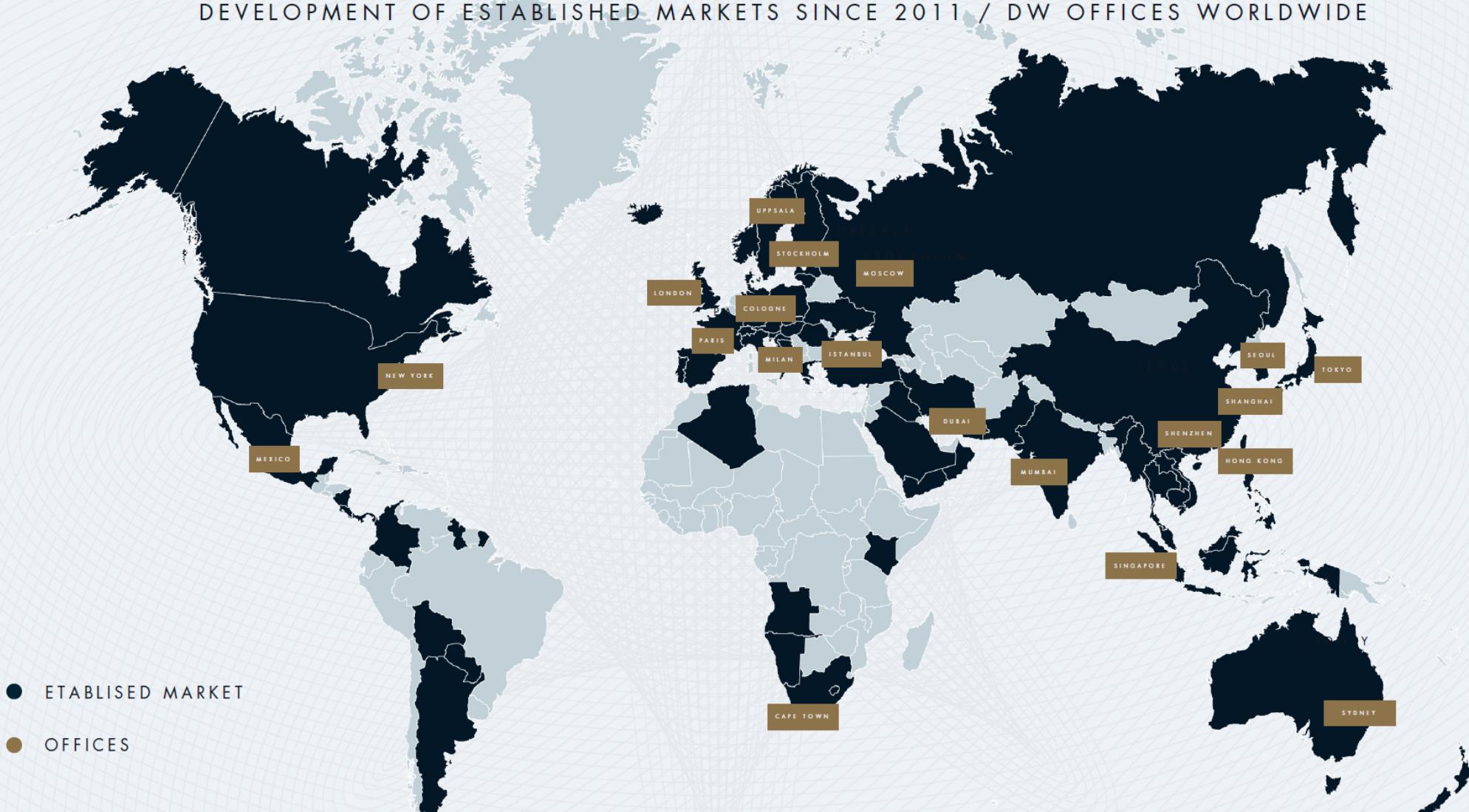
IN
20 OFFICES
WORLDWIDE

STOCKHOLM, UPPSALA, HONG KONG,
TOKYO, SINGAPORE, SEOUL, SYDNEY
NEW YORK, MEXICO CITY, SHENZHEN
SHANGHAI, LONDON, COLOGNE
MILAN, MOSCOW, PARIS
MUMBAI, CAPE TOWN,
ISTANBUL, DUBAI

*JANUARY 2019

GLOBAL PRESENCE

DEVELOPMENT OF ESTABLISHED MARKETS SINCE 2011 / DW OFFICES WORLDWIDE





AFFORDABLE
LUXURY

2020-03-06



TIMELESS
STYLE

DANIEL WELLINGTON



GLOBAL
MOVEMENT

6

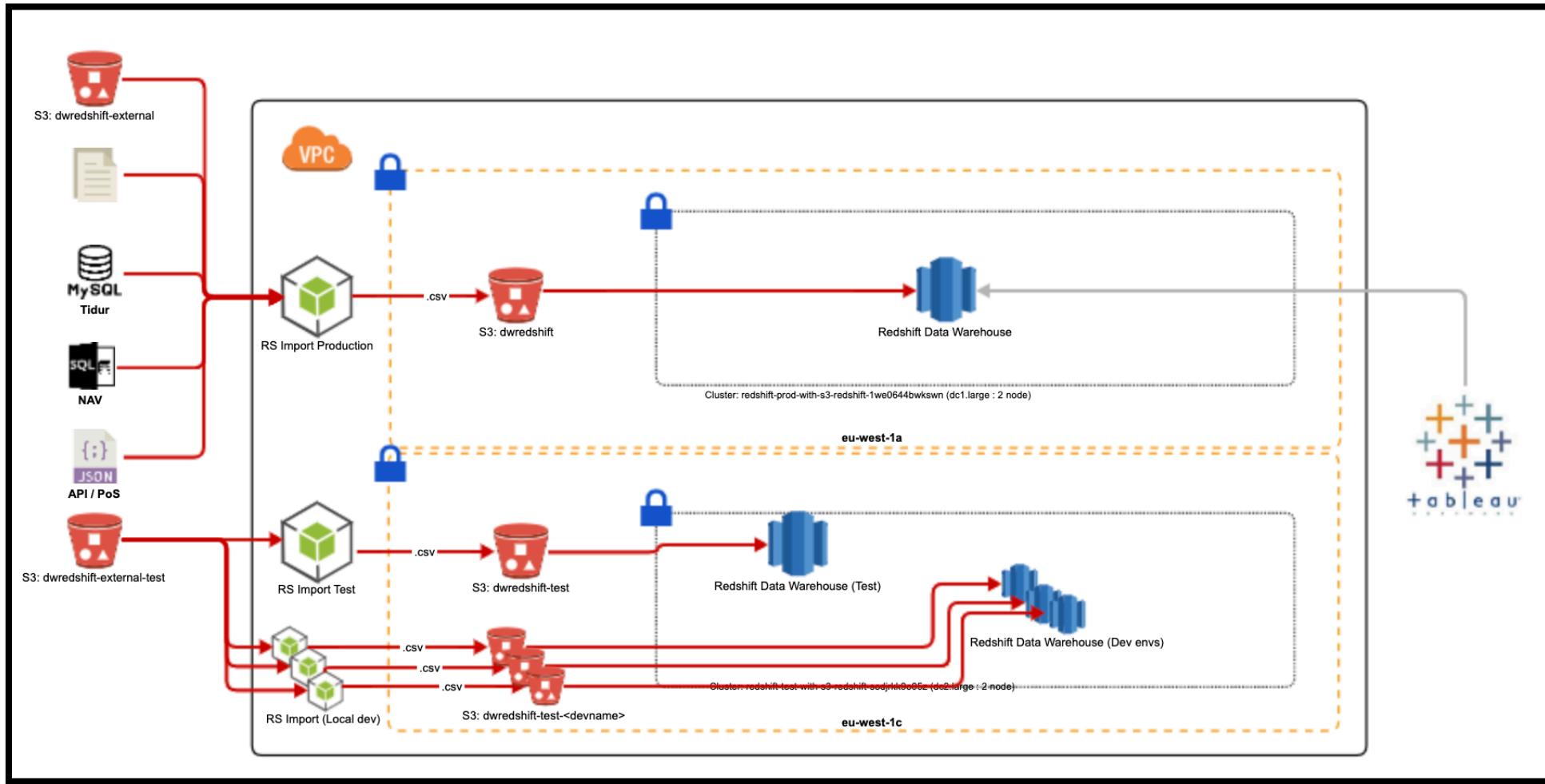
WHY DID WE NEED TO CHANGE ANYTHING?

1

AWS

- No legacy on-prem and born in the cloud
- Redshift
 - Performance : scales as a set of servers, not as a service
 - Concurrency and table locking
 - Distribution, Vaccuming, Indexing, patching, uptime, environments
 - Ultimately Postgres is a conventional server database that wasn't built for the cloud and we are not interested in infrasructure or maintenance

AWS DATA WAREHOUSE ARCHITECTURE



HOW DID WE DO IT?



SNOWFLAKE MVP

- Test Snowflake, because curiosity is often free
- Build your relationships in the community
- Sell the vision
- Utilize a business case and get an MVP built

COMMUNITY - MEET CUSTOMERS

The screenshot shows the Snowflake Community Data Heroes landing page. At the top, there's a navigation bar with the Snowflake logo, a 'COMMUNITY' link, and menu items for 'FORUM', 'USER GROUPS', 'SUPPORT', 'RESOURCES', and a 'START FOR FREE' button. The main banner features a blue-toned background image of people working at desks with laptops. Overlaid text reads 'SNOWFLAKE COMMUNITY DATA HEROES' and describes the Data Heroes program. Below the banner, there's a photograph of two people working on laptops at a desk. To the right of the photo is a text block detailing what it means to be a Data Hero. At the bottom, there's a large orange 'GET INVOLVED' button and a section titled 'HOW TO BECOME A DATA HERO'.

SNOWFLAKE COMMUNITY DATA HEROES

Join the worldwide community of expert users and data professionals. The Data Heroes program recognizes and rewards our most engaged community members who go above and beyond to help other users around the globe

Data Heroes are recognized as Snowflake experts. They meet with Snowflake product and engineering teams, receive early invitations to Snowflake events, and are welcomed to speak about their experiences with Snowflake. As a Data Hero, you'll help and educate other users by sharing knowledge, tips, and best practices—online and in real life

GET INVOLVED

HOW TO BECOME A DATA HERO

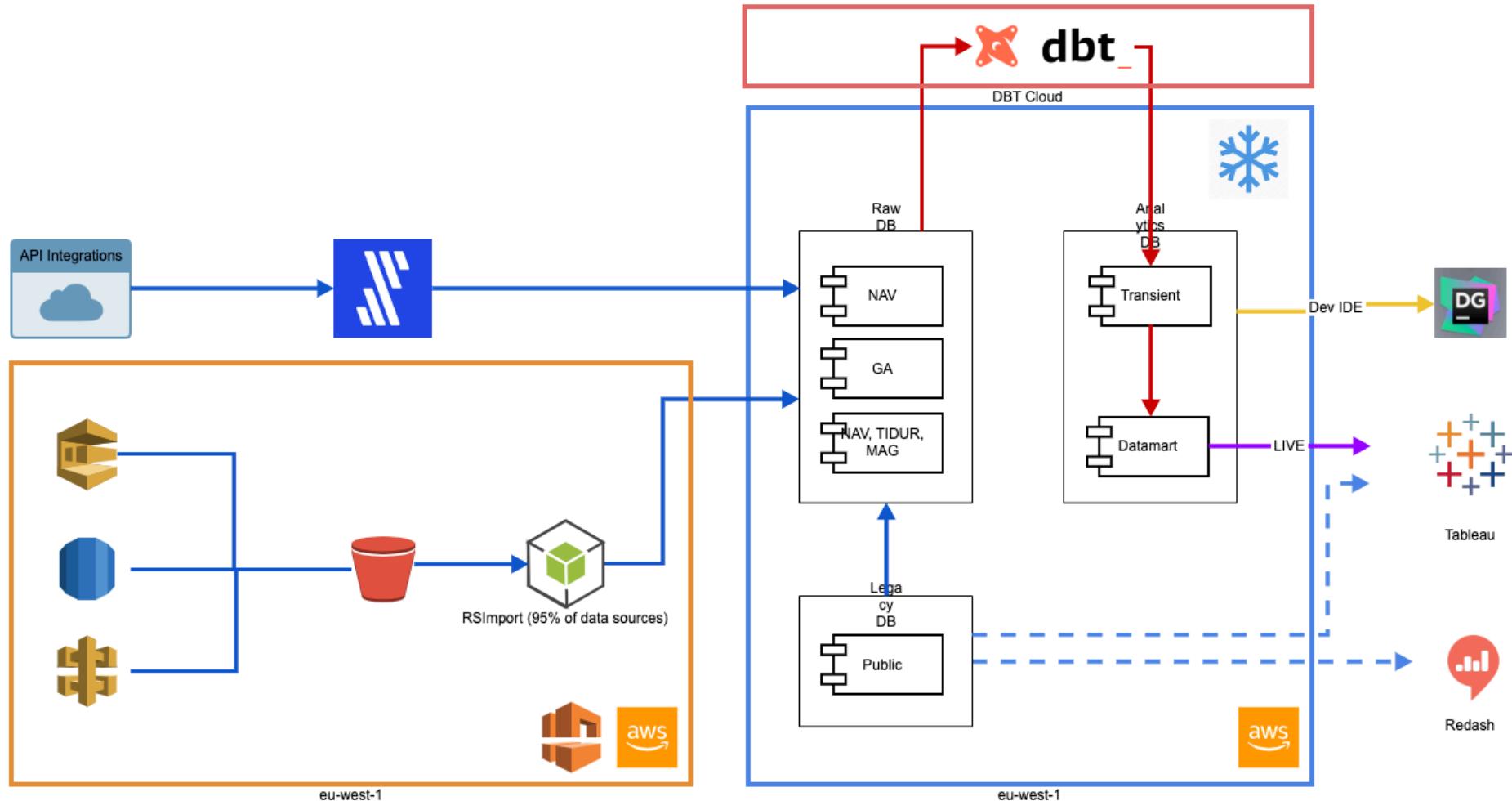
WHAT DID WE DO?

3

MIGRATE - PHASE 1

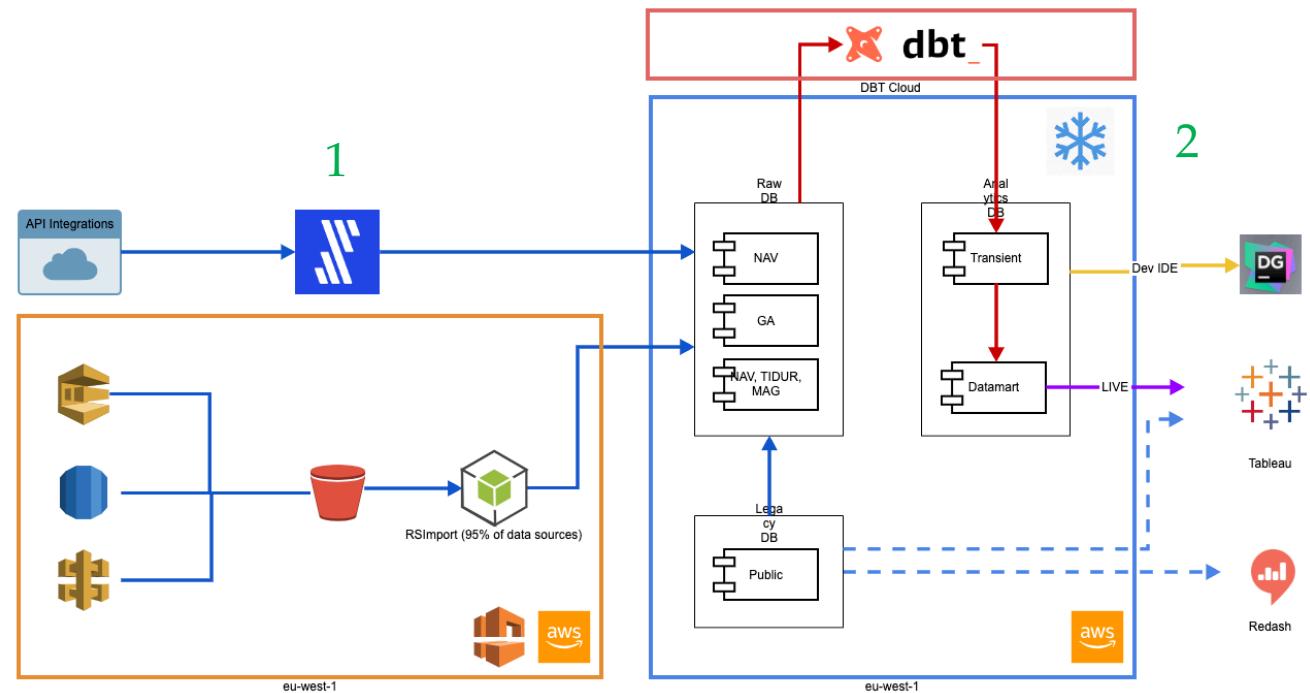
- Get across to Snowflake ASAP
- Re-use what you can – Snowflake Import
- Just go live – we are there right now!
- An amazing team helps and some of them are here today 

DW DATAWAREHOUSE - A FOCUS ON SAAS



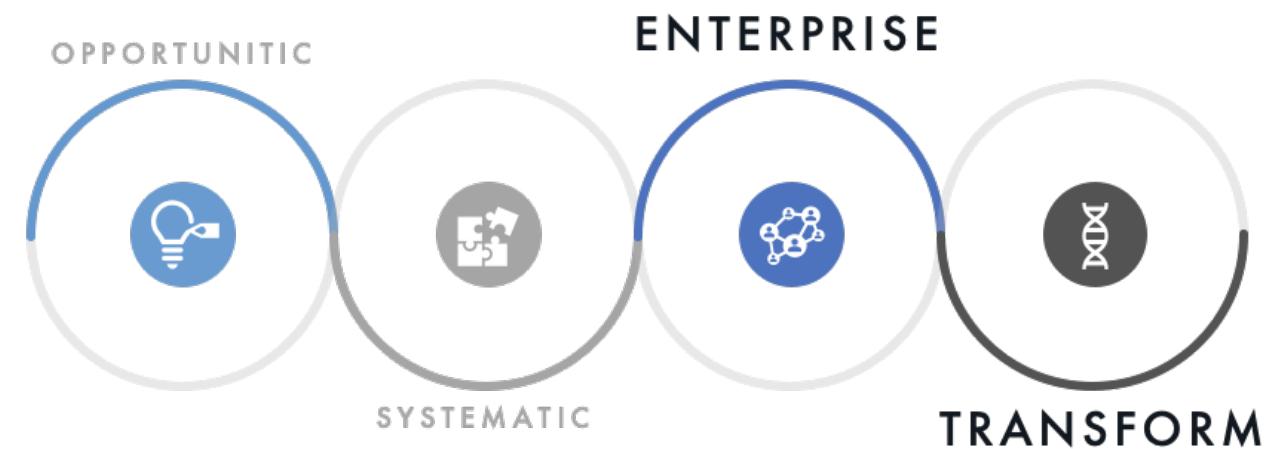
PHASE 2: WHERE THE FOCUS SHOULD ALWAYS HAVE BEEN

1. Integration has been commoditised so adapt!
2. Stronger focus on business logic and processes



PHASE 3: TACKLE ANALYTICS ADOPTION

- DW Data Culture
- Moving through the BI maturity curve





+



WATCHES ACCESSORIES WATCH STRAPS GIFT CARD SHOP INSTAGRAM



A GRAND PETITE

NEW SIZE: 36MM

EXPLORE



FREE SHIPPING ON ALL ORDERS



FREE RETURNS FOR 30 DAYS



TWO YEAR WARRANTY

WATCHES

STRAPS

RINGS

BRACELETS

THE PETITE MESH - NOW IN SIZE 36



ⓘ Hjälp



C H E C K O U T

1. THE BASICS

YOUR INFORMATION

NAME *

EMAIL *

PHONE NUMBER *

ADDRESS *

Optional

CITY *

 POSTCODE *

STATE/PROVINCE *

Mainland GB and Northern Ireland

COUNTRY: United Kingdom

?

Hjälp



DWSNOWFLAKE (-15%)

 I have a coupon code Enter your code

APPLY

 Add gift wrapping

THANK YOU

-
- In case of demo ghosts → use the following slides instead of live demo

Undo Redo Revert Refresh Pause

Disclaimer Warehouse Movements Test

Disclaimer

This report has been created for the intention of being presented during the Snowflake Data for Breakfast- Event @Roots March 5th 2020.

This report is a copy of a real report used by the operations team at Daniel Wellington.

Since the actual information contained within this report is highly sensitive:

All figures have been changed and does not reflect reality.

We hope you enjoy the demo!

Jakob Matto
BI Developer

D A N I E L W E L L I N G T O N

Undo → Redo ← Revert Refresh Pause

Ask Data View: Original Alerts Subscribe Edit Share Download Comments Full Screen

Disclaimer Warehouse Movements Test

Location Code Location Type
SE900UAHUB (Multiple values)Movement Direction Product Group Code
(All) (All)Product Movement Type
Sales Shipment

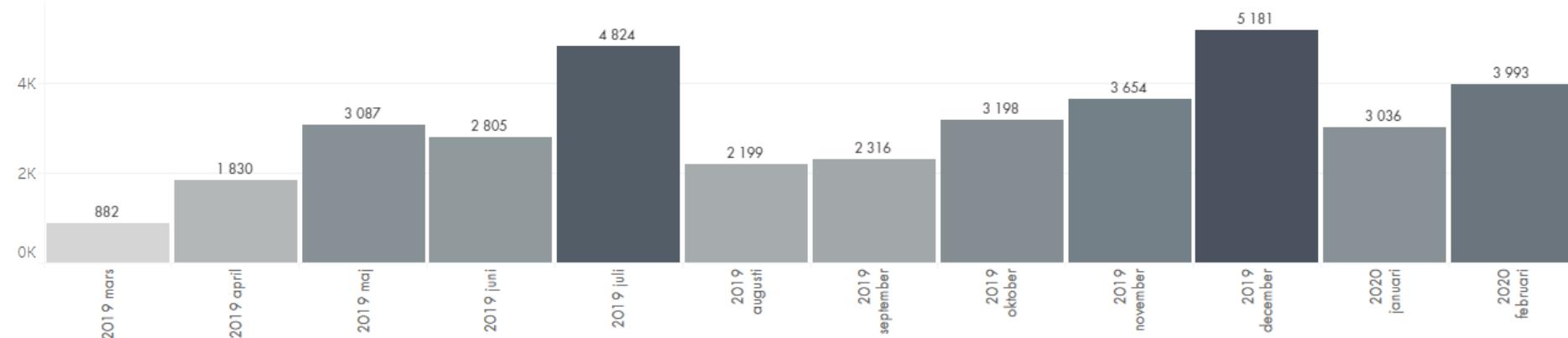
Warehouse Movements

Last data update: 2020-03-04 11:44:34

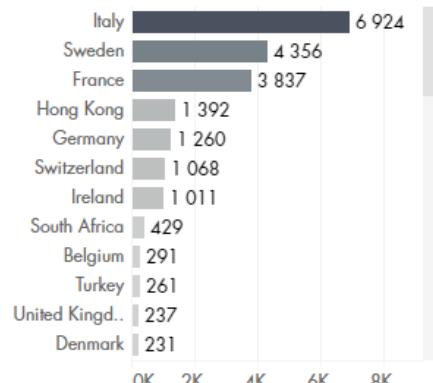
Event Date
2019-03-01 2020-03-01

Click a bar in the below chart to filter all views on that selected month

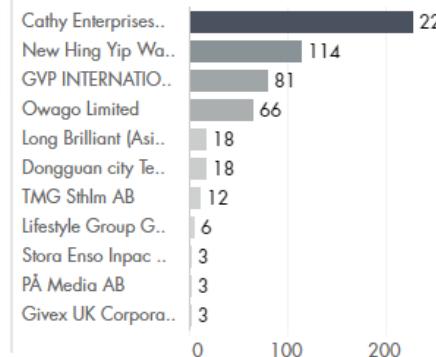
Latest data from: 2020-03-04



Orders per country



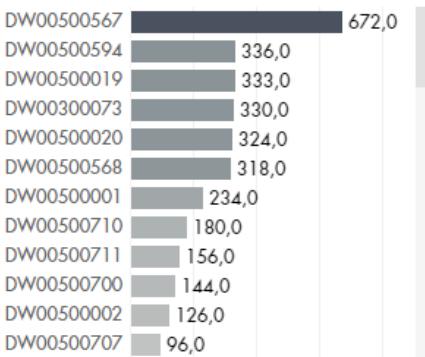
Orders per customer/location/vendor



Orders per day



Top SKU (by Quantity)



D A N I E L W E L L I N G T O N

Worksheet 1 + ▾

Find database objects ↻ All Queries | Saved 35 seconds ago

Starting with...

- ANALYTICS
- ANALYTICS_DEV_GF
- ANALYTICS_DEV_JW
- ANALYTICS_DEV_MC
- ANALYTICS_DEV_PF
- ANALYTICS_DEV_ZJ
- ANALYTICS_TEST
- BI_SOURCE_SYSTEM
- DEMO_DB
- LEGACY
- LEGACY_DEV_GF
- LEGACY_DEV_JW
- LEGACY_DEV_MC
- LEGACY_DEV_PF
- LEGACY_DEV_ZJ
- LEGACY_TEST
- RAW
- RAW_DEV_GF
- RAW_DEV_JW
- RAW_DEV_MC
- RAW_DEV_ZJ
- RAW_RS_BACKUP
- RAW_TEST
- SNOWFLAKE_SAMPLE_DATA
- UTIL_DB
- WORKSPACE
- WORKSPACE_DEV_GF
- WORKSPACE_DEV_JW
- WORKSPACE_DEV_MC
- WORKSPACE_DEV_PF
- WORKSPACE_DEV_ZJ
- WORKSPACE_TEST

Run All Queries Saved 35 seconds ago

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28

Results Data Preview ◀ Open History

Query results will appear here.

Last refreshed 12:56:18 PM

 Auto refresh

History

Hide Filters

View SQL

Abort...

Clear filters

Display queries that meet all of the following criteria:

User is JAKOB.MATTO@DANIELWELLINGTON

 Include client-generated statements Include queries executed by user tasks

Status	Query ID	SQL Text	User	Warehouse	Clust...	Size	Session ID	Start Time	End Time	Total Duration	Bytes Scanned	Rows	Query Tag
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:10 PM	23.6s	268.4MB	18	
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:10 PM	23.3s	268.4MB	13	
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212573...	12:44:47 PM	12:45:10 PM	23.2s	268.4MB	2	
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:10 PM	22.7s	269.3MB	2	
✓	0192a8e0...	SELECT MIN((CASE WH...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:02 PM	15.6s	268.4MB	1	
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:44:59 PM	12.2s	259.7MB	24	
✓	0192a8e0...	SELECT DATE_PART('YE...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:34 PM	12:44:46 PM	12.8s	272.0MB	7	
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212573...	12:44:36 PM	12:44:45 PM	9.3s	321.9MB	48	
✓	0192a8e0...	SELECT (CASE WHEN C...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:40 PM	12:44:45 PM	5.0s	140.1MB	11	
✓	0192a8e0...	SELECT COUNT(DISTIN...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:35 PM	12:44:43 PM	7.5s	327.2MB	12	
✓	0192a8e0...	SELECT COUNT(DISTIN...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:35 PM	12:44:42 PM	7.5s	323.2MB	254	
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:36 PM	12:44:42 PM	6.1s	274.1MB	53	
✓	0192a8e0...	SELECT MAX("V_PRODU...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:35 PM	12:44:42 PM	7.4s	269.7MB	1	
✓	0192a8e0...	SELECT (CASE WHEN C...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:35 PM	12:44:39 PM	4.4s	68.6MB		
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212573...	12:44:35 PM	12:44:36 PM	1.1s			
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:35 PM	12:44:36 PM	827ms			
✓	0192a8e0...	USE DATABASE "ANALY...	JAKOB.MAT...	BI_DEV_JM			4077212574...	12:44:34 PM	12:44:34 PM	149ms			

Warehouses

Last refreshed 1:18:46 PM Auto refresh

Manage your warehouses from this page. To operate on your data, you need to create one or more warehouses.

[+ Create...](#) [Configure...](#) [Suspend...](#) [Resume...](#) [Drop...](#) [Transfer Ownership](#)

Configure a warehouse

Status	Warehouse Name	Size	Clusters	Scaling Poli...	Runn...	Que...	Auto Suspe...	Auto Resume
Suspended	BI_DEV_JM	X-Small	min: 1, max: 1	Standard	0	0	59 seconds	Yes
Suspended	TABLEAU_READER_WH	X-Small	min: 1, max: 3	Standard	0	0	5 minutes	Yes
Started	BI_QUERY_WH	X-Small	1 active (min: 1, ...)	Standard	0	0	5 minutes	Yes

BI_DEV_JM

Owner

[+ Grant Privileges](#)

No Permissions Granted

Warehouses

Last refreshed 1:20:17 PM Auto refresh

Manage your warehouses from this page. To operate on your data, you need to create one or more warehouses.

[+ Create...](#) [Configure...](#) [Suspend...](#) [Resume...](#) [Drop...](#) [Transfer Ownership](#)

BI_DEV_JM

Owner

Status	Warehouse Name	Size	Clusters	Scaling Poli...	Runn...	Que...	Auto Suspe...	Auto Resume
Suspended	BI_DEV_JM	X-Small	1					
Suspended	TABLEAU_READER_WH	X-Small	1					
Started	BI_QUERY_WH	X-Small	1					

[+ Grant Privileges](#)

No Permissions Granted

Configure Warehouse

Name BI_DEV_JM

Size X-Small (1 credit / hour)

Learn more about virtual warehouse sizes [here](#)

Maximum Clusters 1

Multi-cluster warehouses improve the query throughput for high concurrency workloads.

Scaling Policy Standard

The policy used to automatically start up and shut down clusters.

Auto Suspend 59 seconds - custom

The maximum idle time before the warehouse will be automatically suspended.

 Auto Resume [?](#)

Comment Development warehouse for Jakob Matto

[Show SQL](#)

Cancel

Finish

Warehouses

Last refreshed 1:21:18 PM Auto refresh

Manage your warehouses from this page. To operate on your data, you need to create one or more warehouses.

[+ Create...](#) [Configure...](#) [Suspend...](#) [Resume...](#) [Drop...](#) [Transfer Ownership](#)

BI_DEV_JM

Owner

Status	Warehouse Name	Size	Clusters	Scaling Poli...	Runn...	Que...	Auto Suspe...	Auto Resume
Suspended	BI_DEV_JM	X-Small	1					
Suspended	TABLEAU_READER_WH	X-Small	1					
Started	BI_QUERY_WH	X-Small	1					

[+ Grant Privileges](#)

No Permissions Granted

Configure Warehouse

Name BI_DEV_JM

Size X-Small (1 credit / hour)

X-Small (1 credit / hour)

Small (2 credits / hour)

Medium (4 credits / hour)

Large (8 credits / hour)

X-Large (16 credits / hour)

2X-Large (32 credits / hour)

3X-Large (64 credits / hour)

4X-Large (128 credits / hour)

 Auto Resume [?](#)

Comment Development warehouse for Jakob Matto

[Show SQL](#)

Cancel

Finish

Warehouses

Last refreshed 1:22:18 PM Auto refresh 

Manage your warehouses from this page. To operate on your data, you need to create one or more warehouses.

[+ Create...](#) [Configure...](#) [Suspend...](#) [Resume...](#) [Drop...](#) [Transfer Ownership](#)

BI_DEV_JM

Owner

Status	Warehouse Name	Size	Clusters	Scaling Poli...	Runn...	Que...	Auto Suspe...	Auto Resume
Suspended	BI_DEV_JM	X-Small	1	Medium (4 credits / hour)	0	0	Enabled	Enabled
Suspended	TABLEAU_READER_WH	X-Small	1	Medium (4 credits / hour)	0	0	Enabled	Enabled
Started	BI_QUERY_WH	X-Small	1	Medium (4 credits / hour)	0	0	Enabled	Enabled

[+ Grant Privileges](#)

No Permissions Granted

Configure Warehouse

Name BI_DEV_JM

Size Medium (4 credits / hour)

Learn more about virtual warehouse sizes [here](#)

Maximum Clusters

Scaling Policy

Auto Suspend

Comment

[Show SQL](#)

1

2

3

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10

Warehouses

Last refreshed 1:25:11 PM Auto refresh

Manage your warehouses from this page. To operate on your data, you need to create one or more warehouses.

[Create...](#) [Configure...](#) [Suspend...](#) [Resume...](#) [Drop...](#) [Transfer Ownership](#)

Status	Warehouse Name	Size	Clusters	Scaling Poli...	Runn...	Que...	Auto Suspe...	Auto Resume
Suspended	BI_DEV_JM	X-Small	min: 1, max: 1	Standard	0	0	59 seconds	Yes
Suspended	TABLEAU_READER_WH	X-Small	min: 1, max: 3	Standard	0	0	5 minutes	Yes
Suspended	BI_QUERY_WH	X-Small	min: 1, max: 5	Standard	0	0	5 minutes	Yes

BI_DEV_JM

Owner

[Grant Privileges](#)

No Permissions Granted

SQL

```
1 ALTER WAREHOUSE "BI_DEV_JM" SET WAREHOUSE_SIZE = 'MEDIUM' AUTO_SUSPEND = 59
  AUTO_RESUME = TRUE MIN_CLUSTER_COUNT = 1 MAX_CLUSTER_COUNT = 5
  SCALING_POLICY = 'STANDARD' COMMENT = 'Development warehouse for Jakob
  Matto';
```

[Select SQL](#)[Close](#)

Worksheet 1 + ▾

Find database objects ↻ All Queries | Saved 4 seconds ago

Starting with...

- ANALYTICS
- ANALYTICS_DEV_GF
- ANALYTICS_DEV_JW
- ANALYTICS_DEV_MC
- ANALYTICS_DEV_PF
- ANALYTICS_DEV_ZJ
- ANALYTICS_TEST
- BI_SOURCE_SYSTEM
- DEMO_DB
- LEGACY
- LEGACY_DEV_GF
- LEGACY_DEV_JW
- LEGACY_DEV_MC
- LEGACY_DEV_PF
- LEGACY_DEV_ZJ
- LEGACY_TEST
- RAW
- RAW_DEV_GF
- RAW_DEV_JW
- RAW_DEV_MC
- RAW_DEV_ZJ
- RAW_RS_BACKUP
- RAW_TEST
- SNOWFLAKE_SAMPLE_DATA
- UTIL_DB
- WORKSPACE
- WORKSPACE_DEV_GF
- WORKSPACE_DEV_JW
- WORKSPACE_DEV_MC
- WORKSPACE_DEV_PF
- WORKSPACE_DEV_ZJ
- WORKSPACE_TEST

Run All Queries | Saved 4 seconds ago

```
1 ALTER WAREHOUSE "BI_DEV_JM" SET WAREHOUSE_SIZE = 'MEDIUM' AUTO_SUSPEND = 59
2 AUTO_RESUME = TRUE MIN_CLUSTER_COUNT = 1 MAX_CLUSTER_COUNT = 5
3 SCALING_POLICY = 'STANDARD' COMMENT = 'Development warehouse for Jakob
4 Matto';
```

Results Data Preview ◀ Open History

Query results will appear here.

Worksheet 1 + ▾

Find database objects ↻ All Queries | Saved 1 minute ago

Starting with...

- ANALYTICS
- ANALYTICS_DEV_GF
- ANALYTICS_DEV_JW
- ANALYTICS_DEV_MC
- ANALYTICS_DEV_PF
- ANALYTICS_DEV_ZJ
- ANALYTICS_TEST
- BI_SOURCE_SYSTEM
- DEMO_DB
- LEGACY
- LEGACY_DEV_GF
- LEGACY_DEV_JW
- LEGACY_DEV_MC
- LEGACY_DEV_PF
- LEGACY_DEV_ZJ
- LEGACY_TEST
- RAW
- RAW_DEV_GF
- RAW_DEV_JW
- RAW_DEV_MC
- RAW_DEV_ZJ
- RAW_RS_BACKUP
- RAW_TEST
- SNOWFLAKE_SAMPLE_DATA
- UTIL_DB
- WORKSPACE
- WORKSPACE_DEV_GF
- WORKSPACE_DEV_JW
- WORKSPACE_DEV_MC
- WORKSPACE_DEV_PF
- WORKSPACE_DEV_ZJ
- WORKSPACE_TEST

Run All Queries | Saved 1 minute ago

```
1 ALTER WAREHOUSE "BI_DEV_JM" SET WAREHOUSE_SIZE = 'MEDIUM' AUTO_SUSPEND = 59
2 AUTO_RESUME = TRUE MIN_CLUSTER_COUNT = 1 MAX_CLUSTER_COUNT = 5
3 SCALING_POLICY = 'STANDARD' COMMENT = 'Development warehouse for Jakob
4 Matto';
```

Results Data Preview ◀ Open History

✓ Query_ID SQL 255ms 1 rows

Filter result... Download Copy

Columns ▼ ✖

Row	status
-----	--------

1	Statement executed successfully.
---	----------------------------------

-
- If the demo ghosts are still haunting this presentation → use the following slides

Worksheet 1 Tutorial 1: Sample queries o... + ▾

Find database objects Starting with...

- ANALYTICS
- ANALYTICS_DEV_GF
- ANALYTICS_DEV_JW
- ANALYTICS_DEV_MC
- ANALYTICS_DEV_PF
- ANALYTICS_DEV_ZJ
- ANALYTICS_TEST
- BI_SOURCE_SYSTEM
- DEMO_DB
- LEGACY
- LEGACY_DEV_GF
- LEGACY_DEV_JW
- LEGACY_DEV_MC
- LEGACY_DEV_PF
- LEGACY_DEV_ZJ
- LEGACY_TEST
- RAW
- RAW_DEV_GF
- RAW_DEV_JW
- RAW_DEV_MC
- RAW_DEV_ZJ
- RAW_RS_BACKUP
- RAW_TEST
- SNOWFLAKE_SAMPLE_DATA
- UTIL_DB
- WORKSPACE
- WORKSPACE_DEV_GF
- WORKSPACE_DEV_JW
- WORKSPACE_DEV_MC
- WORKSPACE_DEV_PF

Run All Queries Saved 1 minute ago

```
35 select
36 sum(sales.QUANTITY),
37 comp.LEGAL_ENTITY,
38 country.COUNTRY_CODE,
39 curr.CURRENCY_CODE,
40 cust.CUSTOMER_CODE,
41 date.DAY_DATE,
42 prod.SKU,
43 store.STORE_BID
44 from "ANALYTICS"."FACTS"."F_PRODUCT_SALES" sales
45 inner join "ANALYTICS"."DIMS"."D_COMPANY" comp on sales.COMPANY_KEY = comp.COMPANY_KEY
46 inner join "ANALYTICS"."DIMS"."D_COUNTRY" country on sales.SHIP_TO_COUNTRY_KEY = country.COUNTRY_KEY
47 inner join "ANALYTICS"."DIMS"."D_CURRENCY" curr on sales.CURRENCY_KEY = curr.CURRENCY_KEY
48 inner join "ANALYTICS"."DIMS"."D_CUSTOMER" cust on sales.CUSTOMER_KEY = cust.CUSTOMER_KEY
49 inner join "ANALYTICS"."DIMS"."D_DATE" date on sales.ORDER_DATE_KEY = date.DATE_KEY
50 inner join "ANALYTICS"."DIMS"."D_PRODUCT" prod on sales.PRODUCT_KEY = prod.PRODUCT_KEY
51 inner join "ANALYTICS"."DIMS"."D_STORE" store on sales.STORE_KEY = store.STORE_KEY
52 where comp.LEGAL_ENTITY !='DW Belgium'
53 group by comp.LEGAL_ENTITY,
54 country.COUNTRY_CODE,
55 curr.CURRENCY_CODE,
56 cust.CUSTOMER_CODE,
57 date.DAY_DATE,
58 prod.SKU,
59 store.STORE_BID
60 order by date.DAY_DATE desc;
```

Results Data Preview Open History

Query_ID SQL 130ms 1 rows

Filter result... Download Copy Columns ▾

Row	status
1	Statement executed successfully.

Worksheet 1 Tutorial 1: Sample queries o... + ▾

Find database objects Starting with...

- ANALYTICS
- ANALYTICS_DEV_GF
- ANALYTICS_DEV_JW
- ANALYTICS_DEV_MC
- ANALYTICS_DEV_PF
- ANALYTICS_DEV_ZJ
- ANALYTICS_TEST
- BI_SOURCE_SYSTEM
- DEMO_DB
- LEGACY
- LEGACY_DEV_GF
- LEGACY_DEV_JW
- LEGACY_DEV_MC
- LEGACY_DEV_PF
- LEGACY_DEV_ZJ
- LEGACY_TEST
- RAW
- RAW_DEV_GF
- RAW_DEV_JW
- RAW_DEV_MC
- RAW_DEV_ZJ
- RAW_RS_BACKUP
- RAW_TEST
- SNOWFLAKE_SAMPLE_DATA
- UTIL_DB
- WORKSPACE
- WORKSPACE_DEV_GF
- WORKSPACE_DEV_JW
- WORKSPACE_DEV_MC
- WORKSPACE_DEV_PF
- WORKSPACE_DEV_ZJ

Run All Queries Saved 2 minutes ago

```
35 select
36 sum(sales.QUANTITY),
37 comp.LEGAL_ENTITY,
38 country.COUNTRY_CODE,
39 curr.CURRENCY_CODE,
40 cust.CUSTOMER_CODE,
41 date.DAY_DATE,
42 prod.SKU,
43 store.STORE_BID
44 from "ANALYTICS"."FACTS"."F_PRODUCT_SALES" sales
45 inner join "ANALYTICS"."DIMS"."D_COMPANY" comp on sales.COMPANY_KEY = comp.COMPANY_KEY
46 inner join "ANALYTICS"."DIMS"."D_COUNTRY" country on sales.SHIP_TO_COUNTRY_KEY = country.COUNTRY_CODE
47 inner join "ANALYTICS"."DIMS"."D_CURRENCY" curr on sales.CURRENCY_KEY = curr.CURRENCY_CODE
48 inner join "ANALYTICS"."DIMS"."D_CUSTOMER" cust on sales.CUSTOMER_KEY = cust.CUSTOMER_CODE
49 inner join "ANALYTICS"."DIMS"."D_DATE" date on sales.ORDER_DATE_KEY = date.DATE_KEY
50 inner join "ANALYTICS"."DIMS"."D_PRODUCT" prod on sales.PRODUCT_KEY = prod.PRODUCT_KEY
51 inner join "ANALYTICS"."DIMS"."D_STORE" store on sales.STORE_KEY = store.STORE_CODE
52 where comp.LEGAL_ENTITY !='DW Belgium'
53 group by comp.LEGAL_ENTITY,
54 country.COUNTRY_CODE,
55 curr.CURRENCY_CODE,
56 cust.CUSTOMER_CODE,
57 date.DAY_DATE,
58 prod.SKU,
59 store.STORE_BID
60 order by date.DAY_DATE desc;
```

Role BI_ROLE Change

Warehouse BI_DEV_JM (XS) Suspended

X-Small Resize

Data X-Small (1 credit / hour)

Small (2 credits / hour)

Medium (4 credits / hour)

Large (8 credits / hour)

Results Data Preview Open History

Query_ID SQL 130ms 1 rows

Filter result... Download Copy Columns

Row	status
1	Statement executed successfully.

Worksheet 1 Tutorial 1: Sample queries o... + ▾

Find database objects Starting with...

- ANALYTICS
- ANALYTICS_DEV_GF
- ANALYTICS_DEV_JW
- ANALYTICS_DEV_MC
- ANALYTICS_DEV_PF
- ANALYTICS_DEV_ZJ
- ANALYTICS_TEST
- BI_SOURCE_SYSTEM
- DEMO_DB
- LEGACY
- LEGACY_DEV_GF
- LEGACY_DEV_JW
- LEGACY_DEV_MC
- LEGACY_DEV_PF
- LEGACY_DEV_ZJ
- LEGACY_TEST
- RAW
- RAW_DEV_GF
- RAW_DEV_JW
- RAW_DEV_MC
- RAW_DEV_ZJ
- RAW_RS_BACKUP
- RAW_TEST
- SNOWFLAKE_SAMPLE_DATA
- UTIL_DB
- WORKSPACE
- WORKSPACE_DEV_GF
- WORKSPACE_DEV_JW
- WORKSPACE_DEV_MC
- WORKSPACE_DEV_PF
- WORKSPACE_DEV_ZJ

Run All Queries Saved 0 seconds ago

```
78
79 ALTER SESSION SET USE_CACHED_RESULT = FALSE;
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
```

Results Data Preview [Open History](#)

Query ID SQL 130ms 1 rows

Filter result... [Download](#) [Copy](#)

Row status

Row	status
1	Statement executed successfully.

Worksheet 1 Tutorial 1: Sample queries o... + ▾

Find database objects Starting with...

- ANALYTICS
- ANALYTICS_DEV_GF
- ANALYTICS_DEV_JW
- ANALYTICS_DEV_MC
- ANALYTICS_DEV_PF
- ANALYTICS_DEV_ZJ
- ANALYTICS_TEST
- BI_SOURCE_SYSTEM
- DEMO_DB
- LEGACY
- LEGACY_DEV_GF
- LEGACY_DEV_JW
- LEGACY_DEV_MC
- LEGACY_DEV_PF
- LEGACY_DEV_ZJ
- LEGACY_TEST
- RAW
- RAW_DEV_GF
- RAW_DEV_JW
- RAW_DEV_MC
- RAW_DEV_ZJ
- RAW_RS_BACKUP
- RAW_TEST
- SNOWFLAKE_SAMPLE_DATA
- UTIL_DB
- WORKSPACE
- WORKSPACE_DEV_GF
- WORKSPACE_DEV_JW
- WORKSPACE_DEV_MC
- WORKSPACE_DEV_PF
- WORKSPACE_DEV_ZJ

Run All Queries Saved 36 seconds ago

```
35 select
36 sum(sales.QUANTITY),
37 comp.LEGAL_ENTITY,
38 country.COUNTRY_CODE,
39 curr.CURRENCY_CODE,
40 cust.CUSTOMER_CODE,
41 date.DAY_DATE,
42 prod.SKU,
43 store.STORE_BID
44 from "ANALYTICS"."FACTS"."F_PRODUCT_SALES" sales
45 inner join "ANALYTICS"."DIMS"."D_COMPANY" comp on sales.COMPANY_KEY = comp.COMPANY_KEY
46 inner join "ANALYTICS"."DIMS"."D_COUNTRY" country on sales.SHIP_TO_COUNTRY_KEY = country.COUNTRY_KEY
47 inner join "ANALYTICS"."DIMS"."D_CURRENCY" curr on sales.CURRENCY_KEY = curr.CURRENCY_KEY
48 inner join "ANALYTICS"."DIMS"."D_CUSTOMER" cust on sales.CUSTOMER_KEY = cust.CUSTOMER_KEY
49 inner join "ANALYTICS"."DIMS"."D_DATE" date on sales.ORDER_DATE_KEY = date.DATE_KEY
50 inner join "ANALYTICS"."DIMS"."D_PRODUCT" prod on sales.PRODUCT_KEY = prod.PRODUCT_KEY
51 inner join "ANALYTICS"."DIMS"."D_STORE" store on sales.STORE_KEY = store.STORE_KEY
52 where comp.LEGAL_ENTITY !='DW Belgium'
53 group by comp.LEGAL_ENTITY,
54 country.COUNTRY_CODE,
55 curr.CURRENCY_CODE,
56 cust.CUSTOMER_CODE,
57 date.DAY_DATE,
58 prod.SKU,
59 store.STORE_BID
60 order by date.DAY_DATE desc;
```

Results Data Preview Open History

Query ID SQL 130ms 1 rows

Filter result... Download Copy Columns ▾

Row	status
1	Statement executed successfully.

History

Last refreshed 2:36:16 PM

 Auto refresh Hide Filters View SQL Abort...

Display queries that meet all of the following criteria:

 Clear filters

User



is JAKOB.MATTO@DANIELWELLINGTON

 Include client-generated statements Include queries executed by user tasks

Status	Query ID	SQL Text	User	Warehouse	Clust...	Size	Session ID	Start Time	End Time	Total Duration	Bytes Scanned	Rows	Query Tag
✓	0192a91b...	select sum(sales.QUANT...	JAKOB.MAT...	BI_DEV_JM	1	Medium	4077212574...	1:43:53 PM	1:44:05 PM	12.1s	663.8MB	10.8M	
✓	0192a91b...	ALTER SESSION SET US...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:43:49 PM	1:43:49 PM	79ms			
✓	0192a91b...	USE WAREHOUSE "BI_D...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:43:37 PM	1:43:38 PM	128ms			
✓	0192a91b...	ALTER WAREHOUSE "BI_...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:43:37 PM	1:43:37 PM	113ms			
✓	0192a91b...	ALTER SESSION SET US...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:43:12 PM	1:43:12 PM	91ms			
✓	0192a91a...	select sum(sales.QUANT...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	1:42:07 PM	1:42:38 PM	31.5s	666.4MB	10.8M	
✓	0192a91a...	ALTER SESSION SET US...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:42:02 PM	1:42:02 PM	55ms			
✓	0192a919...	select sum(sales.QUANT...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:41:26 PM	1:41:27 PM	496ms			
✓	0192a917...	select sum(sales.QUANT...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	1:39:41 PM	1:40:11 PM	30.0s	666.4MB	10.8M	
✓	0192a90e...	ALTER WAREHOUSE "BI_...	JAKOB.MAT...				4077212573...	1:30:19 PM	1:30:19 PM	124ms			
✓	0192a90d...	ALTER WAREHOUSE "BI_...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:29:00 PM	1:29:00 PM	255ms			
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:10 PM	23.6s	268.4MB	18	
✓	0192a8e0...	SELECT "V_PRODUCT_M..."	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:10 PM	23.3s	268.4MB	13	
✓	0192a8e0...	SELECT "V_PRODUCT_M..."	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212573...	12:44:47 PM	12:45:10 PM	23.2s	268.4MB	2	
✓	0192a8e0...	SELECT "V_PRODUCT_M..."	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:10 PM	22.7s	269.3MB	2	
✓	0192a8e0...	SELECT MIN((CASE WH...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:02 PM	15.6s	268.4MB	1	
✓	0192a8e0...	SELECT "V_PRODUCT_M..."	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:44:59 PM	12.2s	259.7MB	24	

History

Last refreshed 2:36:16 PM

 Auto refresh
[Hide Filters](#)
[View SQL](#)
[Abort...](#)
[Clear filters](#)

Display queries that meet all of the following criteria:

User is
 Include client-generated statements Include queries executed by user tasks

Status	Query ID	SQL Text	User	Warehouse	Clust...	Size	Session ID	Start Time	End Time	Total Duration	Bytes Scanned	Rows	Query Tag
✓	0192a91b...	select sum(sales.QUANT...	JAKOB.MAT...	BI_DEV_JM	1	Medium	4077212574...	1:43:53 PM	1:44:05 PM	12.1s	663.8MB	10.8M	
✓	0192a91b...	ALTER SESSION SET US...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:43:49 PM	1:43:49 PM	79ms			
✓	0192a91b...	USE WAREHOUSE "BI_D...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:43:37 PM	1:43:38 PM	128ms			
✓	0192a91b...	ALTER WAREHOUSE "BI_...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:43:37 PM	1:43:37 PM	113ms			
✓	0192a91b...	ALTER SESSION SET US...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:43:12 PM	1:43:12 PM	91ms			
✓	0192a91a...	select sum(sales.QUANT...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	1:42:07 PM	1:42:38 PM	31.5s	666.4MB	10.8M	
✓	0192a91a...	ALTER SESSION SET US...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:42:02 PM	1:42:02 PM	55ms			
✓	0192a919...	select sum(sales.QUANT...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:41:26 PM	1:41:27 PM	496ms			
✓	0192a917...	select sum(sales.QUANT...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	1:39:41 PM	1:40:11 PM	30.0s	666.4MB	10.8M	
✓	0192a90e...	ALTER WAREHOUSE "BI_...	JAKOB.MAT...				4077212573...	1:30:19 PM	1:30:19 PM	124ms			
✓	0192a90d...	ALTER WAREHOUSE "BI_...	JAKOB.MAT...	BI_DEV_JM			4077212574...	1:29:00 PM	1:29:00 PM	255ms			
✓	0192a8e0...	SELECT "V_PRODUCT_M...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:10 PM	23.6s	268.4MB	18	
✓	0192a8e0...	SELECT "V_PRODUCT_M..."	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:10 PM	23.3s	268.4MB	13	
✓	0192a8e0...	SELECT "V_PRODUCT_M..."	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212573...	12:44:47 PM	12:45:10 PM	23.2s	268.4MB	2	
✓	0192a8e0...	SELECT "V_PRODUCT_M..."	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:10 PM	22.7s	269.3MB	2	
✓	0192a8e0...	SELECT MIN((CASE WH...	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:45:02 PM	15.6s	268.4MB	1	
✓	0192a8e0...	SELECT "V_PRODUCT_M..."	JAKOB.MAT...	BI_DEV_JM	1	X-Small	4077212574...	12:44:47 PM	12:44:59 PM	12.2s	259.7MB	24	

Snowflake & Data @ Voi

Björn Idrén
Head of Business Intelligence & Analytics
Voi Technology

BeforeVoi



- Ericsson Sales, Tech, Product, Business Intelligence.
- IPX, Business Intelligence.
- Klarna, Business Intelligence & Data Warehousing.
- Soundtrack Your Brand / Spotify Business, Business Intelligence & Analytics

This is VOI

VOI is a fun, safe and green transport option that changes how people move in the city.

- Startup
- Founded September 2018
- 550+ Employees
- 35+ Cities
- 10 Countries
- Operational Heavy
- Intense Need for Data & Insights
- Fast Changing, Fast Pace
- {any other words describing a positive chaos with exponential growth}

Being a Startup

- Done is better than perfect
- Iteration is innovation
- Solving problems with money is not an option
- MVP - Minimum Viable Product
- Keep it Simple
- Keep keeping it simple



Data / BI setup

- All Data reside in the Cloud
- Everyone on Mac (all but finance..)
- Minimalistic Lake -> DW
- Snowflake Partner - 



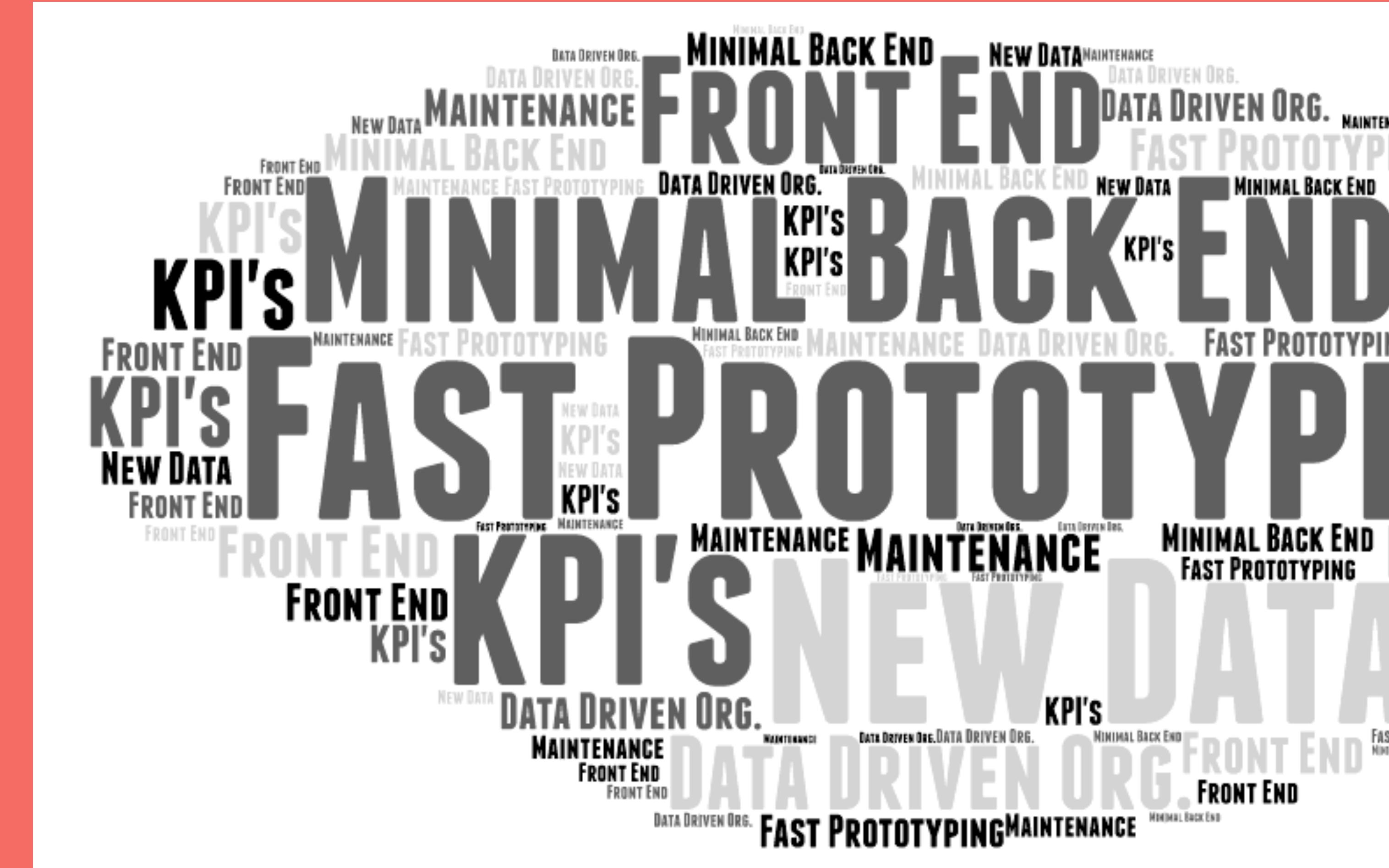
Traditional Business Intelligence

- ▶ 2-3 teams
 - ▶ Delivery organisations
 - ▶ Requirements given from the business
 - ▶ Mature(r) understanding of BI in the business
 - ▶ Speed < 100% accuracy
 - ▶ Often little to no effort on utilising existing data



Startup Business Intelligence

- One person at best
- Speed > 100% accuracy
- Prototyping
- BI not an established function
- Evangelist mode





Speed of Iteration
Utilize existing Data
Data Driven?
Share the data with everyone

An individual without information can't take responsibility.
An individual with information can't help but take responsibility.
- Jan Carlzon

Data Driven Prototyping With

Share data

First attempt
mapping rides
on a map



Examples

Data Prototyping Voi

Johanna Nyberg
@JHNyberg

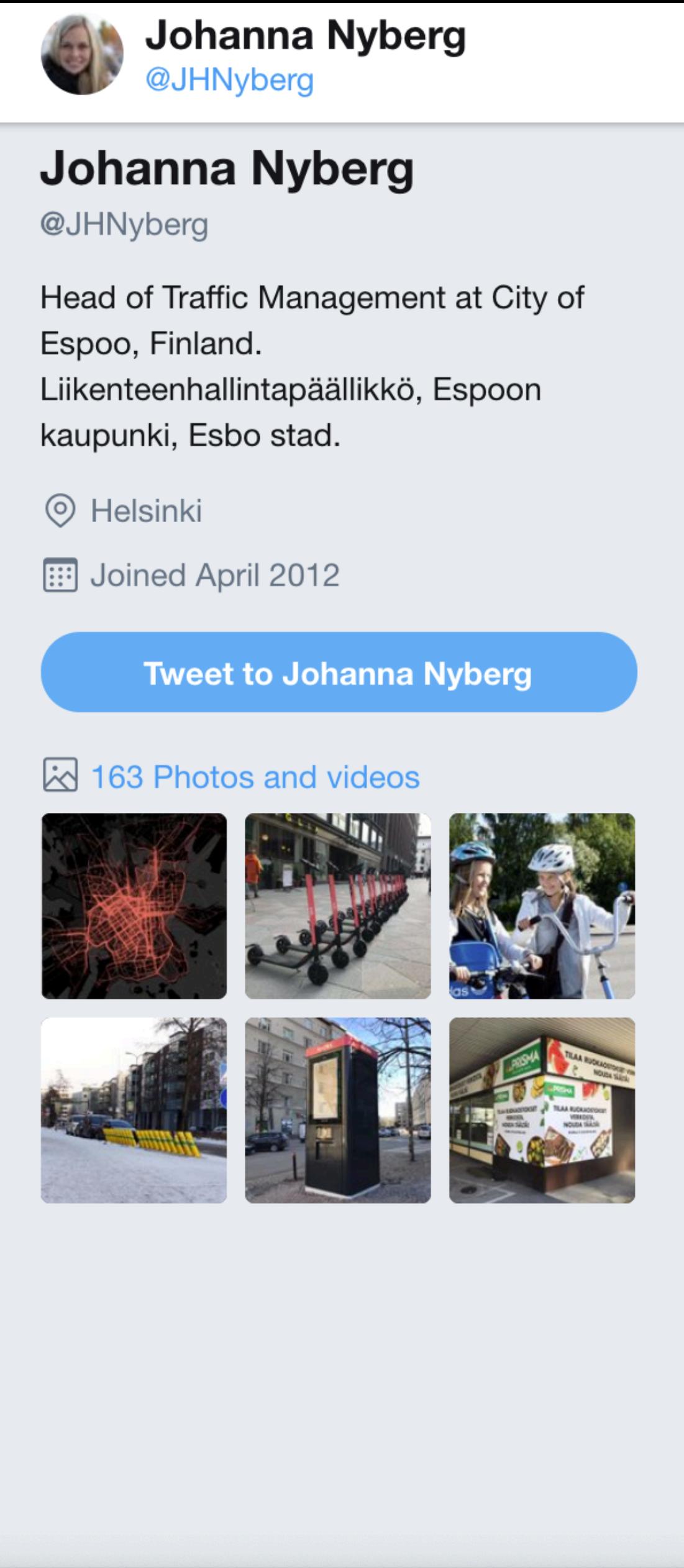
Johanna Nyberg
@JHNyberg

Head of Traffic Management at City of Espoo, Finland.
Liikenteenhallintapäällikkö, Espoon kaupunki, Esbo stad.

📍 Helsinki
Joined April 2012

[Tweet to Johanna Nyberg](#)

163 Photos and videos



Tweets 575 **Following** 379 **Followers** 662 **Likes** 1,166

Tweets **Tweets & replies** **Media**

Johanna Nyberg @JHNyberg · 1h
This map shows #Voi scooter travel paths in #Helsinki. The number of rides during the first week is pretty incredible considering the limited number of scooters.



Example - Voi

This shows how Voi served 9 079 Stockholm citizens and 1 009 tourists on June 25th, 2019.

All in all – we provided **16 482** rides with our fleet which that day consisted of **2 697** scooters out on the streets of Stockholm. The scooters were ridden for a total distance of **19 430** kilometers with a total Co2 emission savings of **3,7** tonnes compared to if these trips would have been made using a regular fossil-driven car.

We think we're on to something and that we fill a need for our customers. During that day we served **10 441** customers in total and we were given the opportunity to serve **1 538** customers that used our service for the first time.

We think most of them were happy with their first experience – **79%** of them are now loyal and have continued to use the service since that day.

voi.



Live demo - Voi

[Click Me](#)