

# Tips & Tricks of a Power BI (Premium) Implementation in a Financial Institute

Jeroen Schalken  
Data Architect

Nicky van Vroenhoven  
Lead BI Developer



Who are you?  
<https://bit.ly/sqlsatprague>





**Joyful  
Craftsmen**

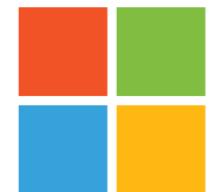
**J&T BANKA**

**//ADASTRA**

**vmware®**

 Intelligent Technologies

 **avast**

 **Microsoft**



# Microsoft Office Lens app

Android

iOS



# Microsoft Office Lens app

**without** Lens



**with** Lens

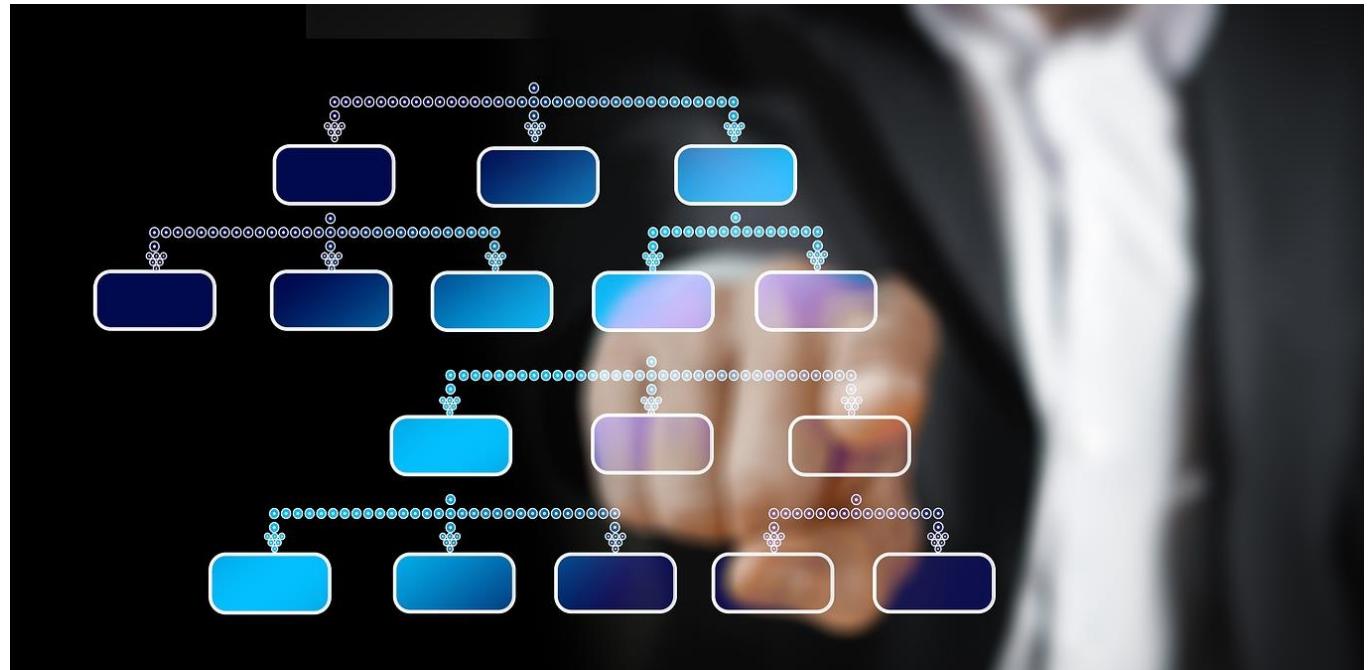


# Agenda

- Organisation
- Data management
- Reporting
- Collaborate
- Premium / Support
- Lessons learned
- Next steps

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# Van Lanschot Kempen

## a specialised wealth manager

Van Lanschot Kempen, a union of two specialized financial boutiques, is the oldest independent financial institution in the Netherlands.

Our mission is the creation and preservation of wealth of our customers.

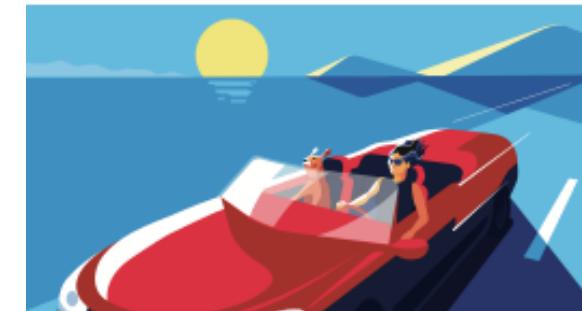


**Specialised in the future  
since 1737**

**evi**



Everyone deserves Evi



Pronounced personally

**Kempen**



turning dedication into  
dazzling prospects



Show results from:

2019 ▾

Half-year results

Trading updates

Client assets

€ 97.3 billion

Net result

€ 83.6 million

Balance sheet total

€ 14.5 billion

Underlying net result  
(excluding expenses related  
to Strategy 2020 investment  
programme and restructuring  
charges)

€ 92.5 million

Common Equity Tier 1 ratio  
(CET1 fully loaded, excl.  
retained earnings)

22.7 %

Efficiency ratio

75.5 %



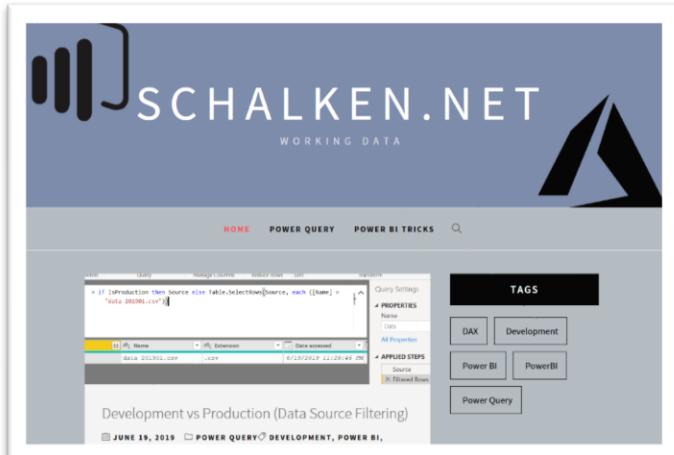
1737



# Who Are We?

## Jeroen Schalken

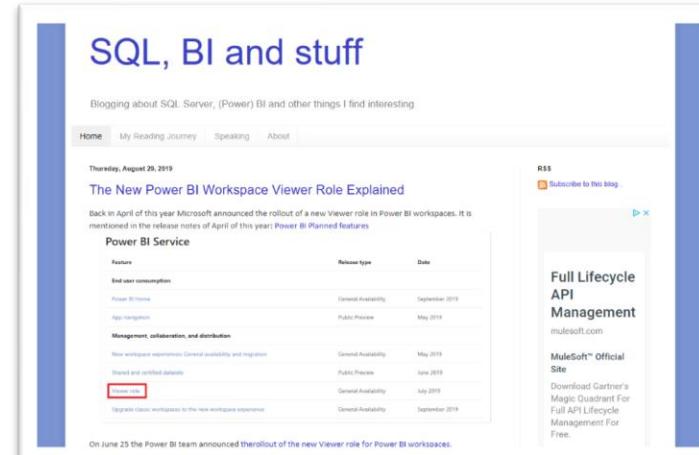
- Data addict & architect
- 20 year IT/consultancy
- 6 years at VLK
- @JeroenSchalken
- Blog on [schalken.net](http://schalken.net)



1737

## Nicky van Vroenhoven

- MS BI Developer
- 10 years BI consultancy
- 2 years at VLK
- @NickyvV
- Blog on [nickyvv.com](http://nickyvv.com)



# Who Are You?



<https://bit.ly/sqlsatprague>

Who are you

1. What is your name?

Enter your answer

2. What is your occupation? (please choose best fit)

- Business / end user
- BI developer / consultant
- DBA
- Manager
- Architect
- Other

3. What is your Power BI experience? (choose all that apply)

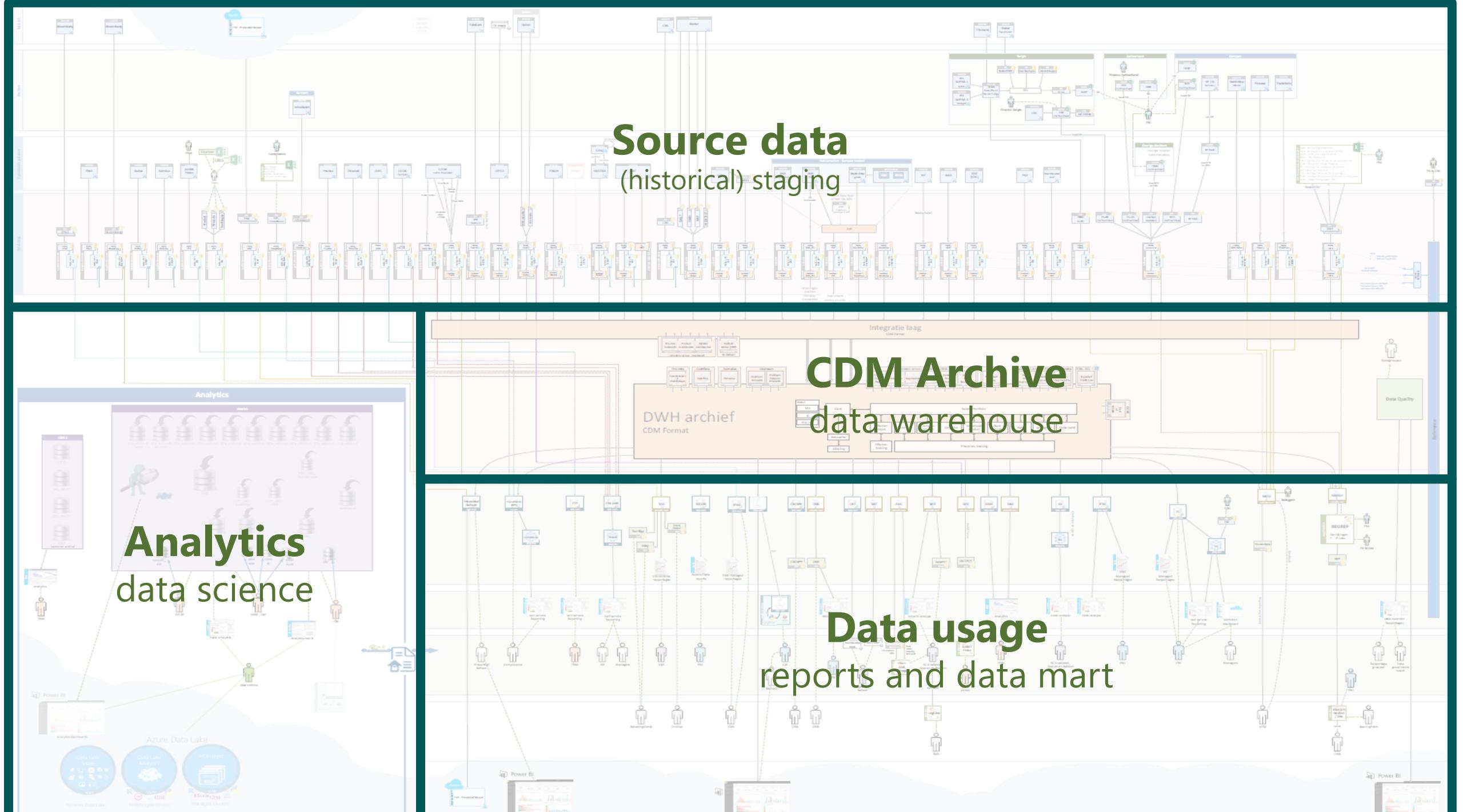
- Power BI Desktop
- PowerBI.com
- Power BI App Workspaces
- Power BI Apps
- Power BI Premium

Submit

# Agenda

- Organisation
- Data management
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- Collaborate
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**Source data**  
(historical) staging

**CDM Archive**  
data warehouse

**Data usage**  
reports and data mart

**Analytics**  
data science

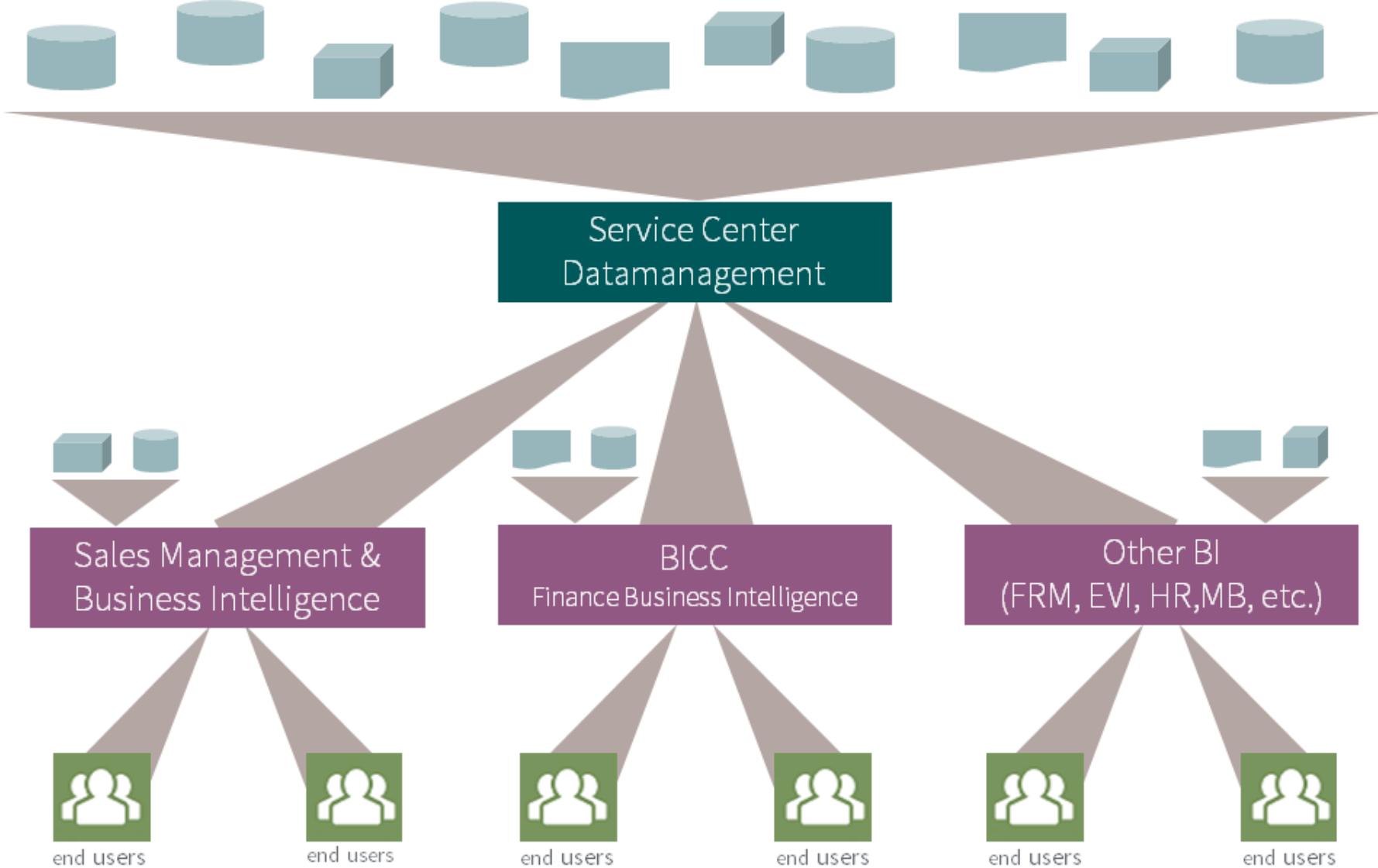


Total size = 4192

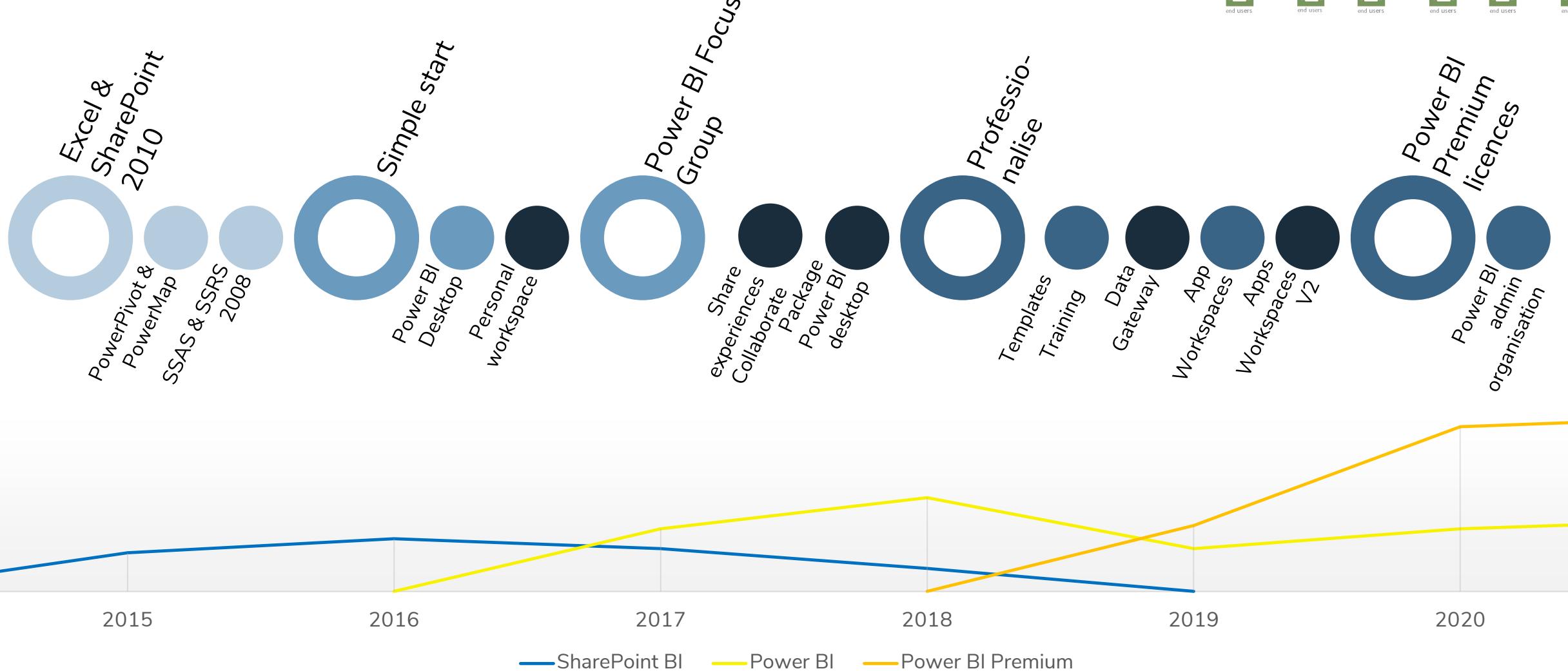
26-3-2019 9:56:49

DWH		DM_LAC		STAGING_FINAN		STAGING_Matrix		DM_VIA		ODS		CALC_D...	
								Data Space (GB) 30		Free Space (GB) 40			
Data Space (GB) 222	Index Space (GB) 205	Data Space (GB) 119	Free Space (GB) 27	Data Space (GB) 67	Index Space (GB) ...	Data Space (GB) 51	Free ...	Free Spa...	Index S...	Data Sp...	Index ...	Data Space (G...	Data Space (G...
Free Space (GB) 57	AM_AML	Data Space (GB) 104	Index Space (GB) ...	Data Space (GB) 90	Fre...	STG_ARC...	STG_ARC...	DWH_C...	EM_RISK	STAGI...	EM_RE...	Data Space...	Data Space...
DM_GRM	Index Space (GB) 205	Data Space (GB) 104	Index Space (GB) ...	Data Space (GB) 68	Free Space (GB) ...	Data Space (G...	Index Space (...	Free Space (G...	Data Space ...	Data Space...	Data Space...	Data Space...	Data Space...
Data Space (GB) 121	STG_ARCHIVE_Bankview	Index Space (GB) 52	Data Space (GB) 44	Free ...	Data Space (GB) 71	Free Spa...	STAGIN...	TRANSF...	DM_...	TRA...	STG_...	STG...	EM_...
Free Space (GB) 86	Index Sp...	Data Space (GB) 60	Free Spa...	Index Sp...	Data Space (GB) 54	Index Space (...	AM_FTP	STG...	STA...	CA...	ST...	ST...	ST...
							STG_ARCHIVE...	DBA_monitor...	TRANSF...	STA...	CA...	ST...	ST...
							Free Sp...	Free Sp...	Free Sp...	Free Sp...	Index S...	Index S...	Data S...
							AM_FTP	AM_FTP	DWH...	S...			
							Data Spac...	Data Spac...	STAG...	T...			
							STG_ARCHIVE...	DM_FTP	STAG...	S...			
							Free Space (G...	Data Space (G...	STAG...	T...			
							Index Sp...	Index Sp...	STAG...	S...			
							EM_DGS	EM_DGS	STAGIN...	AM...			
							Data Spa...	Data Spa...	STAG...	AM...			
							Free S...	Free S...	STAG...	AM...			
							Index Space (...	Index Space (...	STG_AR...	TR...			
							EM_A...	EM_A...	TRANSF...	AM...			
							Free Space (G...	Free Space (G...	Free Space (G...	EM_A...			

# BI Organisation



# History and progress



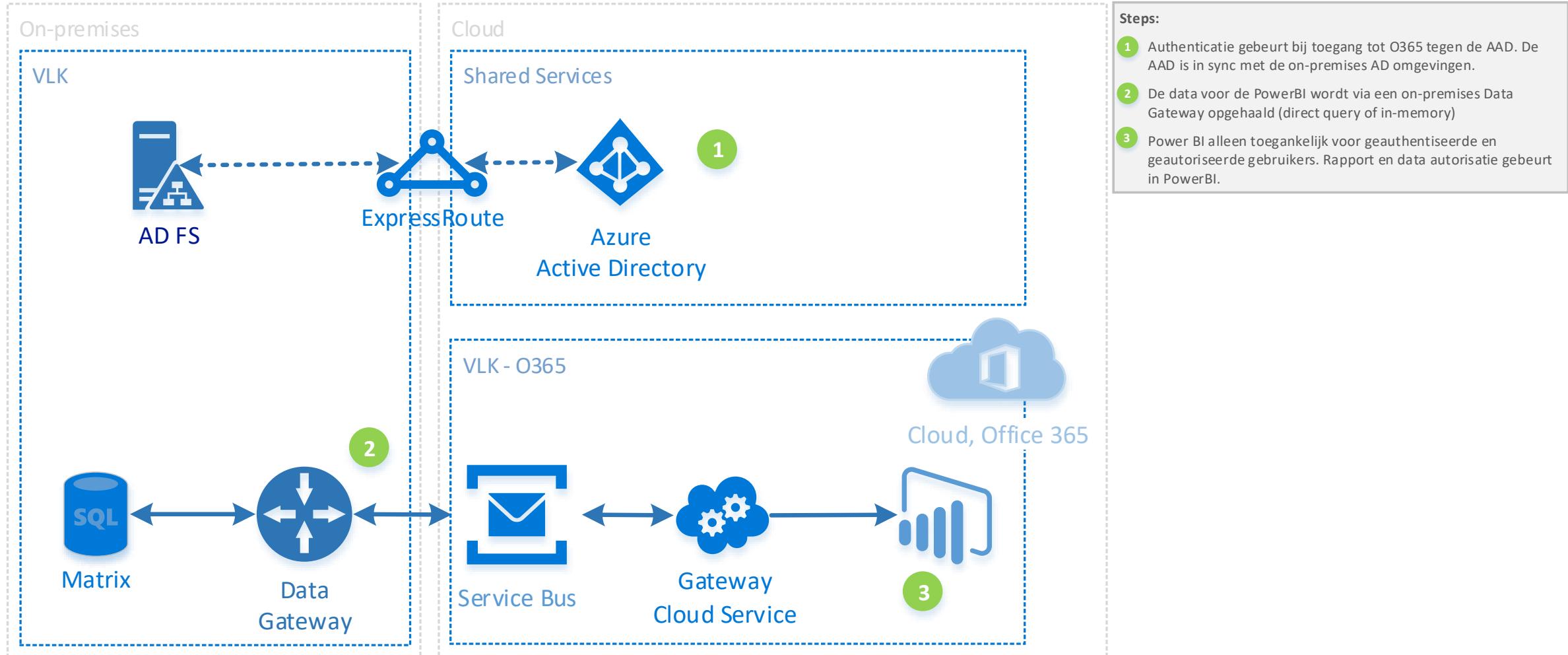
# BI in a financial institute

*BI at a bank has its challenges*

- Regulatory requirements and constraints
  - National and European supervisors (AFM, DNB, ECB)
- Sensitive data
  - Privacy laws: AVG (Dutch) and GDPR



# Data and authentication architecture



# IT versus Business Structure <sub>vs</sub> regulation <sub>vs</sub> freedom

Searching for the best of both worlds:

- IT for structure and repeatability
- Business for knowledge, usability and flexibility



# IT versus Business Structure <sub>vs</sub> regulation <sub>vs</sub> freedom



**Trust is key**

# IT versus Business Structure <sub>vs</sub> regulation <sub>vs</sub> freedom

Monitor to prevent  
proliferation



# Agenda

- Organisation
- Data management
- **Reporting**
- Collaborate
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A woman with black hair, wearing a purple blazer over a green top, stands prominently in the center of the frame. She is positioned in an office setting with several people working at desks and computer monitors displaying data. A large window in the background shows a staircase and more office space.

Power BI in practice

# Power BI at VLK

- Templates
  - VLK, VL, Kempen, Evi

# Power BI at VLK

**DIAH 2016 Performance**

Revenue and Units by MonthName

MonthName	Revenue	Units
Jan	2M	8K
Feb	2.5M	7.5K
Mar	4.8M	8.5K
Apr	4.8M	8.5K
May	4.5M	8K
Jun	3.8M	7.5K

Manufacturer Revenue

Manufacturer	Revenue
Aliqui	3.060.103,94
Currus	1.245.000,33
Natura	3.633.708,01
Pirum	2.956.279,78
VanArsdel	11.334.261,02
Total	22.229.353,07

Revenue by Segment

Segment	Revenue Percentage
Moderation	36,84%
Convenience	29,33%
Extreme	17,04%
Productivity	8,51%
Select	4,02%
All Season	1,1%
Youth	0,0%

Revenue by State and Segment



# Power BI at VLK

## DIAH 2016 Performance

Revenue and Units by MonthName

Year: 2016

Revenue and Units by MonthName

Revenue by Segment

Revenue by State and Segment

Manufacturer	Revenue
Aliqui	3.060.103,94
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# Power BI at VLK

**DIAH 2016 Performance**

Revenue and Units by MonthName

MonthName	Revenue	Units
Jan	~2.2M	~7.5K
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iedereen verdient evi

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Revenue by State and Segment

Bing

© 2016 HERE. © 2016 Microsoft Corporation. Térms

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# Data Quality dashboard in Power BI

**VAN LANSCHOT KEMPEN**

Brondatum: 2019-03-13

Legend: PROD (light blue), TEST (dark blue)

**Prioriteit**

- Low
- Medium
- TOPS** (checked)

**Jaar**

- 2019

**Maand naam**

- March

**Hits per Normsteller**

Normsteller	Hits
IFRS9	36030
DGS	804
RegRep	640
VIA	73
MIFIDII	56
CDD	27
SCDM	4
IRB	2
MngRep	1

**Aantal 0 hits per Normsteller**

Normsteller	Aantal 0 hits
RegRep	10
IFRS9	9
MngRep	6
IRB	5
MIFIDII	5
SCDM	4
CDD	3
BB	2
VIA	1
DGS	0

**Unique Hits per Oplosgroep**

Oplosgroep	Hits
SCDM_FB	35688
ClientSupport	1526
Accounting	343
InternalControl	27
EVI	1

**Verwisselingen**

Brondatum: 2019-02-19

Norm filter: Huidig boven norm (checked), Huidig onder norm (unchecked)

Status: PROD (checked), TEST (unchecked)

Filter: Vorige = 0 (checked), xBeiden = 0 (unchecked)

**Oplosgroep**

- BijzonderBeheer
- ClientSupport
- InternalControl
- SCDM\_FB

**Normsteller**

- CDD
- DGS
- IFRS9
- IRB
- MIFIDII
- RegRep
- SCDM
- VIA

**Validatielijstnaam**

Search:

Aantal rijen: 24

**Validatielijstnaam**

DWH154: Ontbrekende LEInr in Telekurs (op basis van GK nummers uit DWH en eigenboek)

DWH158: Issuers in DWH rating tabel zonder geldige rating (niet LICRLC, LTC, LTIR)

MTX106: Klant: KvKnr niet gevuld bij een in NL belastingplichtige Organisatie

MTX130: Klant: Minderjarige Portfoliohouder zonder wettelijk vertegenwoordiger

MTX134: Klant: Minderjarige Portfoliohouder zonder beschikkingbevoegde (exclusief kantoor S10)

MTX143: Klant: Organisatie met DGS Product zonder Beschikkingbevoegde in Portfolio (exclusief kantoor S10)

MTX145: Klant: Organisatie met DGS Product is gekoppeld aan Beschikkingbevoegde zonder BSNnr (exclusief kantoor S10)

MTX151: Klant: afgesloten Portfolio met producten met saldo

MTX174: Klant: SBicode versus Tegenpartij categorie niet in lijn bij Portfolioholders met actieve producten

MTX176: Particuliere relatie met CDD klasse ongelijk HOOG, woonachtig in een HOOG risicoland

MTX179: Particuliere PEP-relatie (Politically Exposed) heeft CDD klasse ongelijk HOOG

MTX186: Portfoliohouder is UBO van een organisatie met een Effectenpositie

MTX187: US ingezetene is UBO van een organisatie met een Effectenpositie

Totaal: 1252 / 1994



# Weekoverzicht suspicious cases

Huidige week

**2018-47**

11/19/2018 11/25/2018

WeekStart

WeekEnd

relatienvr

All ▾

segment

All ▾

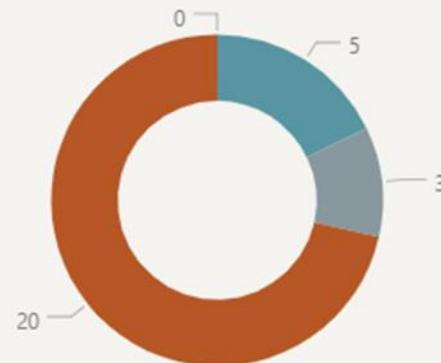
weeknr

2018-36 ▾

&lt; &gt;

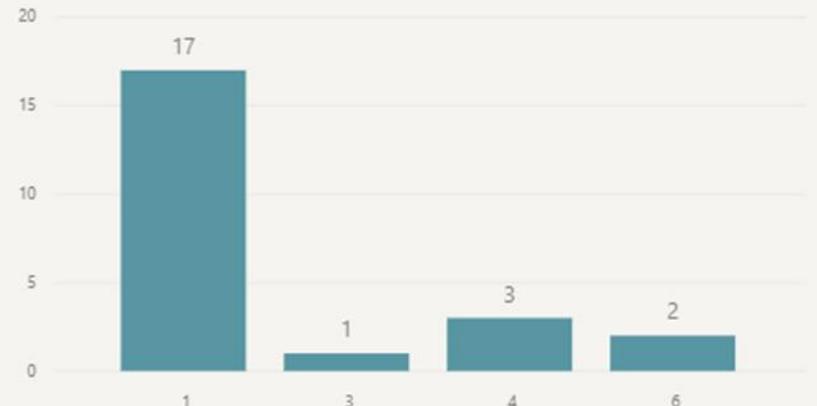
&lt; &gt;

Aantal alerts per type



- # bet.trans
- # eff.trans
- # keywords
- # watchlist

Aantal cases per score



Feedback toevoegen

ID: Week: 2018-36 Save

Verdacht

unshor: case gegenereerd ivm gebruik woorden Panama papers in meeting

Client Name

Search

Instrument Name

Turnover Classes

Search

Entered Date

9/22/2017

4/25/2018

&gt; \$M

Client 1

MERCHANT BANK DWH  
REFRESHED 5/25/2018 12:30:19 PM

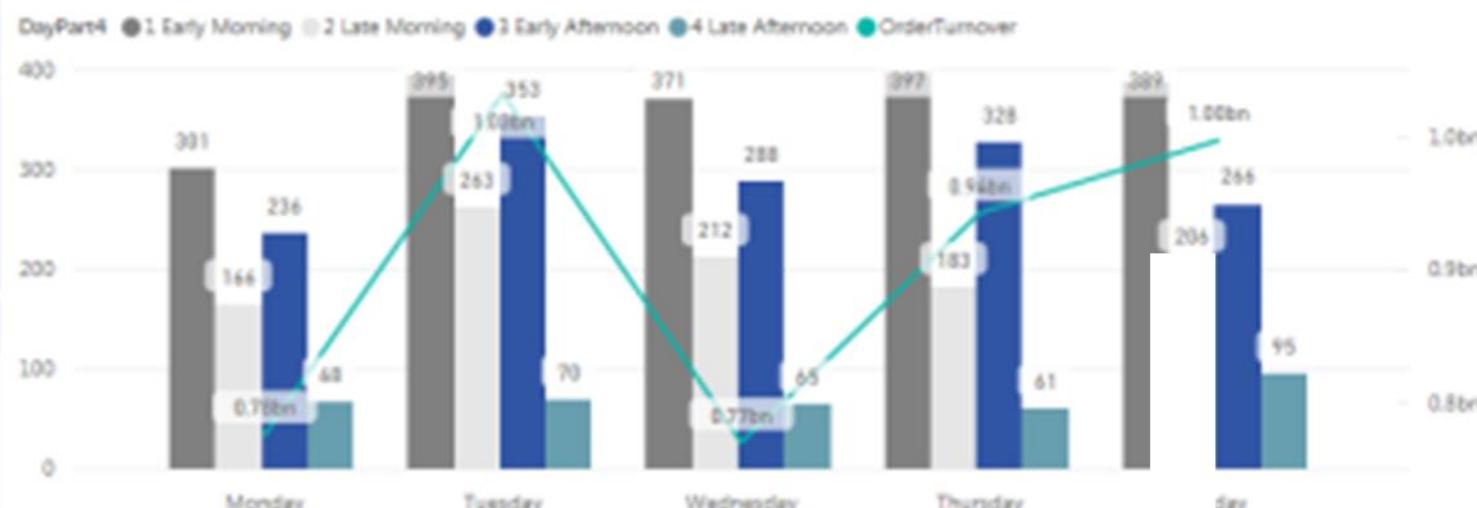
TRADE ANALYZER

Kempen

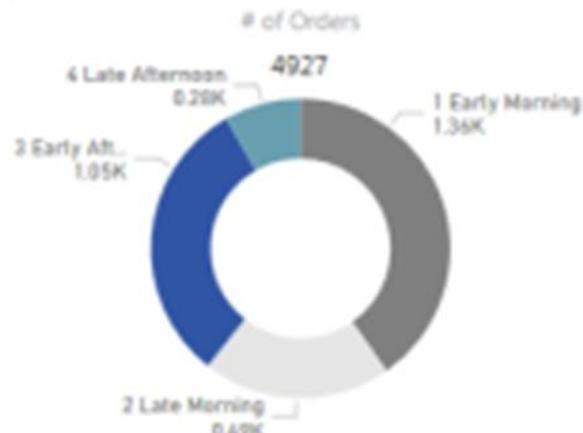
# of Orders by Country Listed



# of Orders per day of the week



Commission Booked



Bing

Datum

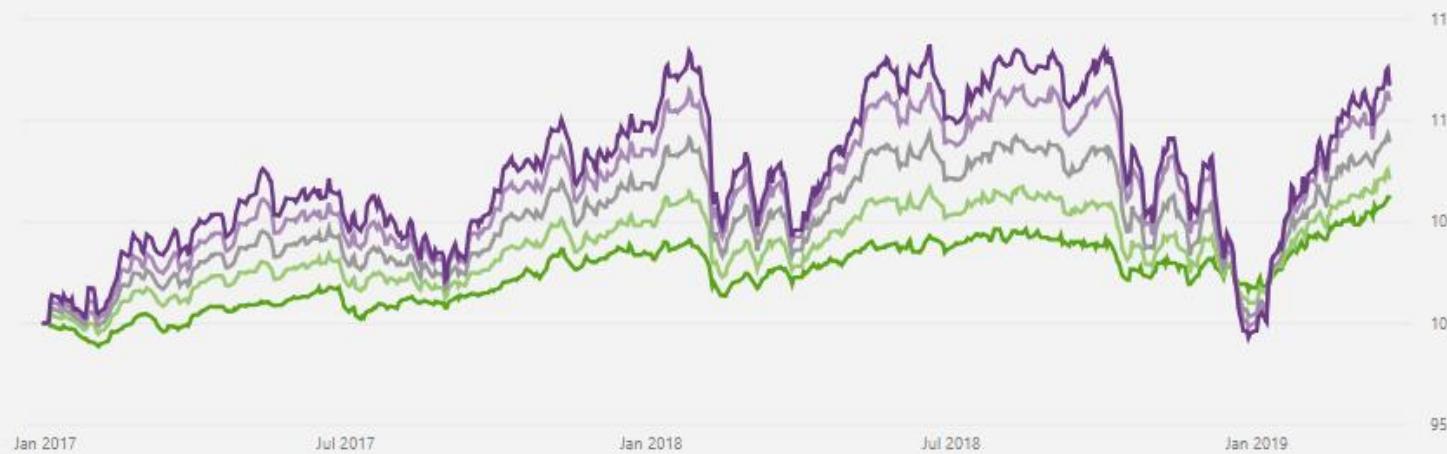
12/31/2016 3/22/2019

iedereen verdient evi



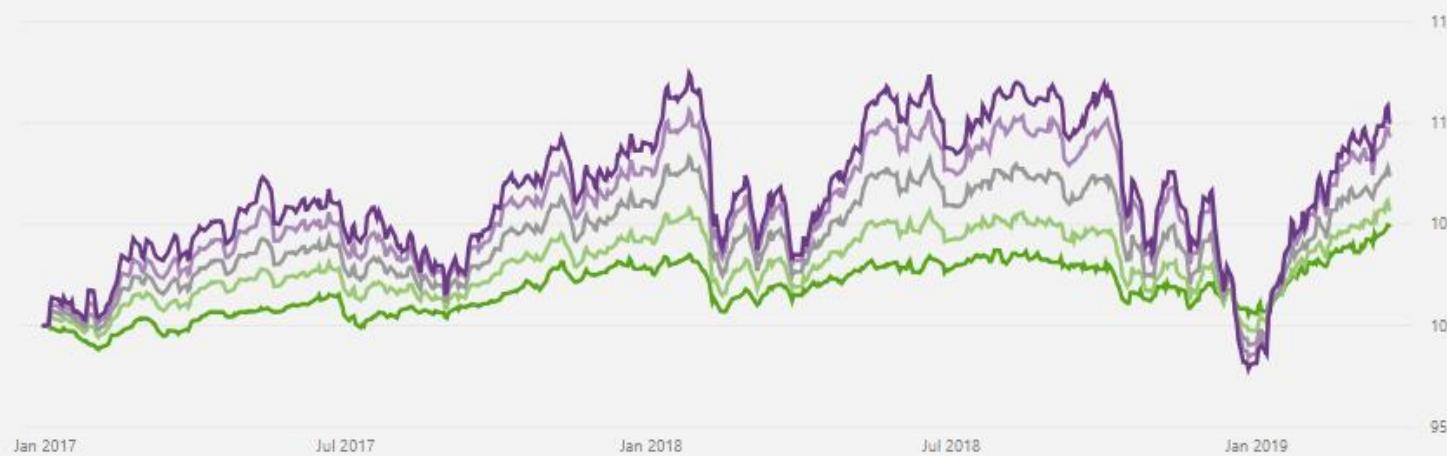
Bruto performance van de modelportefeuilles

Modelportefeuille — Zeer defensief — Defensief — Neutraal — Offensief — Zeer offensief

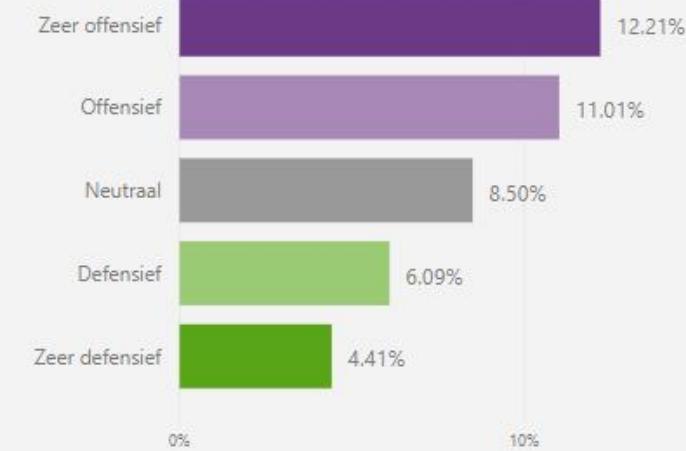
**Bruto**

Netto performance van de modelportefeuilles

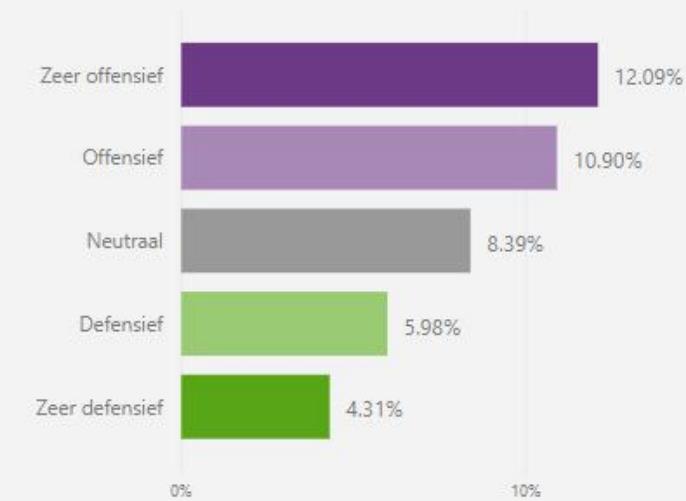
Modelportefeuille — Zeer defensief — Defensief — Neutraal — Offensief — Zeer offensief

**Netto**

Bruto performance YTD per modelportefeuille



Netto performance YTD per modelportefeuille





Hi, Simone

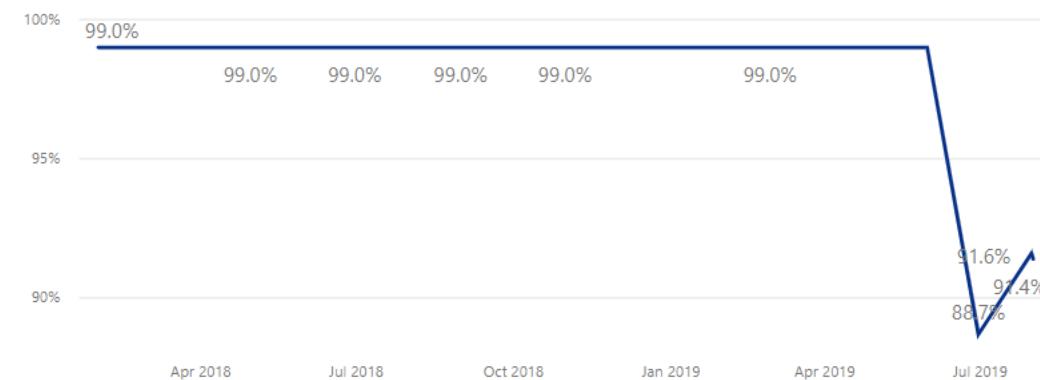
MY SETTING

OVERVIEW

# An overview of Mrs. Rosen



Feasability over time



Balance over time



Planned cashflow

Description	Amount	Frequency
Aanvulling inkomen... 1 - 2017 Start	€ 50,000.00 1 - 2032 End	12

Actual cashflow

Description	Amount	Date
New Range Rover ABNA0942634527	-€ 301,213 7234618	14-6-2019 TrasactionID

Disclaimer



# Power BI at VLK

- Templates
  - VLK, VL, Kempen, Evi
- Packaging PBI Desktop monthly
- Workspaces, Apps and Onedrive for versioning
- Custom Branding in the service



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# Custom branding in PowerBl.com

Admin portal

The screenshot illustrates the custom branding process in the Power BI Admin portal. On the left, a sidebar lists various administrative options: Usage metrics, Users, Audit logs, Tenant settings, Capacity settings, Embed Codes, Organizational visuals, Dataflow settings, Workspaces, and Custom branding. The 'Custom branding' option is selected and highlighted with a grey background.

The main content area is titled 'Custom branding' and contains instructions to 'Customize the look of Power BI for your whole organization'. It features three sections: 'Logo', 'Cover image', and 'Theme color'. The 'Logo' section shows a placeholder for a user profile picture and includes 'Upload' and 'Delete' buttons. The 'Cover image' section shows a large, blurred landscape image and includes similar upload and delete buttons. The 'Theme color' section displays a color swatch with the hex code #323130.

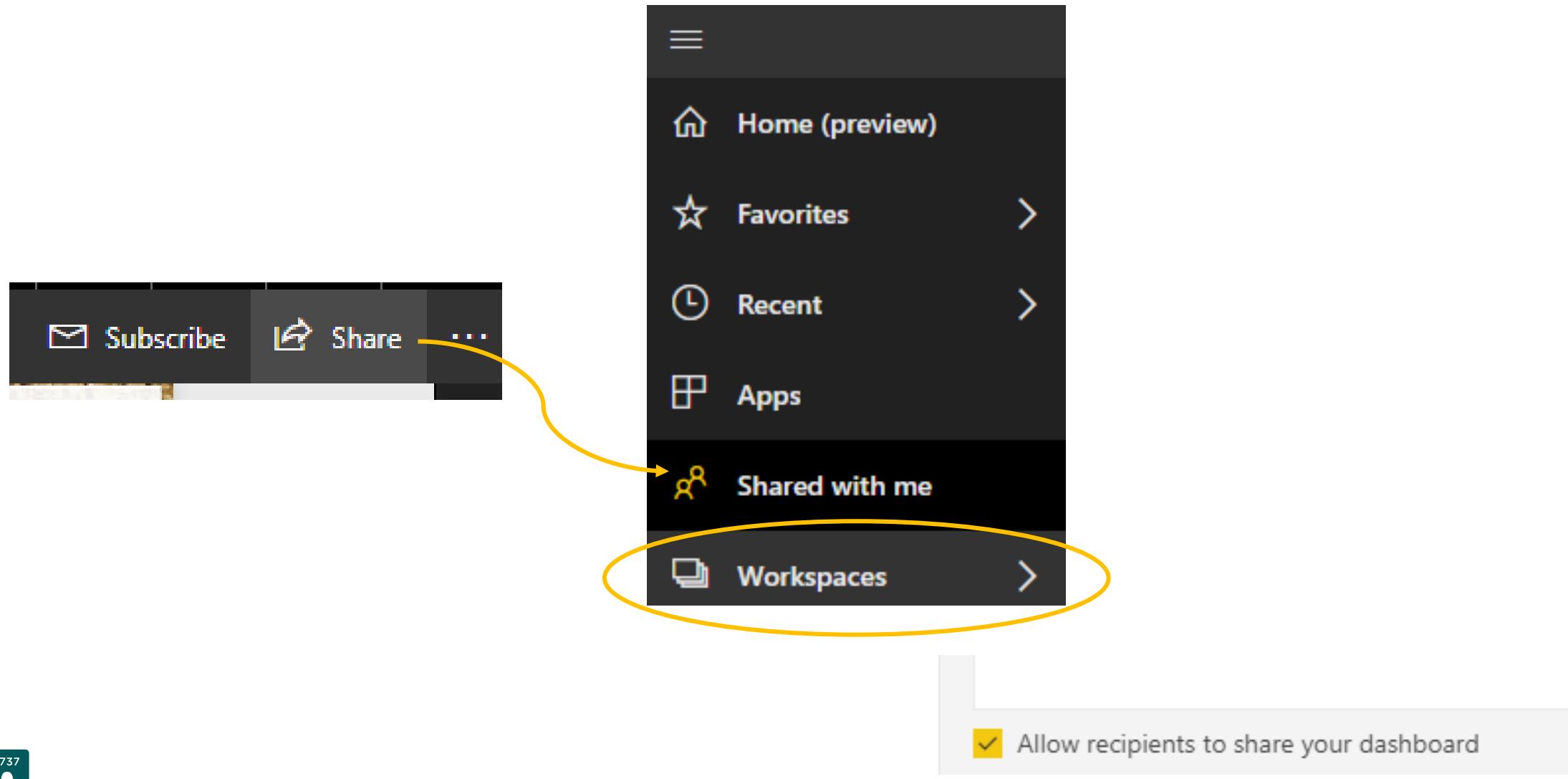
Below this, the Power BI interface is shown with a dark teal header. The header includes the 'VAN LANSCHOT KEMPEN' logo, a 'Power BI' button, and navigation links for 'Snelle toegang' and 'Activiteit'. A red box highlights the header area. The main content area displays a greeting 'Good afternoon, Nicky' and a search bar with the placeholder 'Search'. A red box highlights the main content area. The bottom left corner shows a small sidebar with icons for dashboard, star, and clock, and the number '1737'. The bottom right corner features a green double-angle bracket icon.

# Agenda

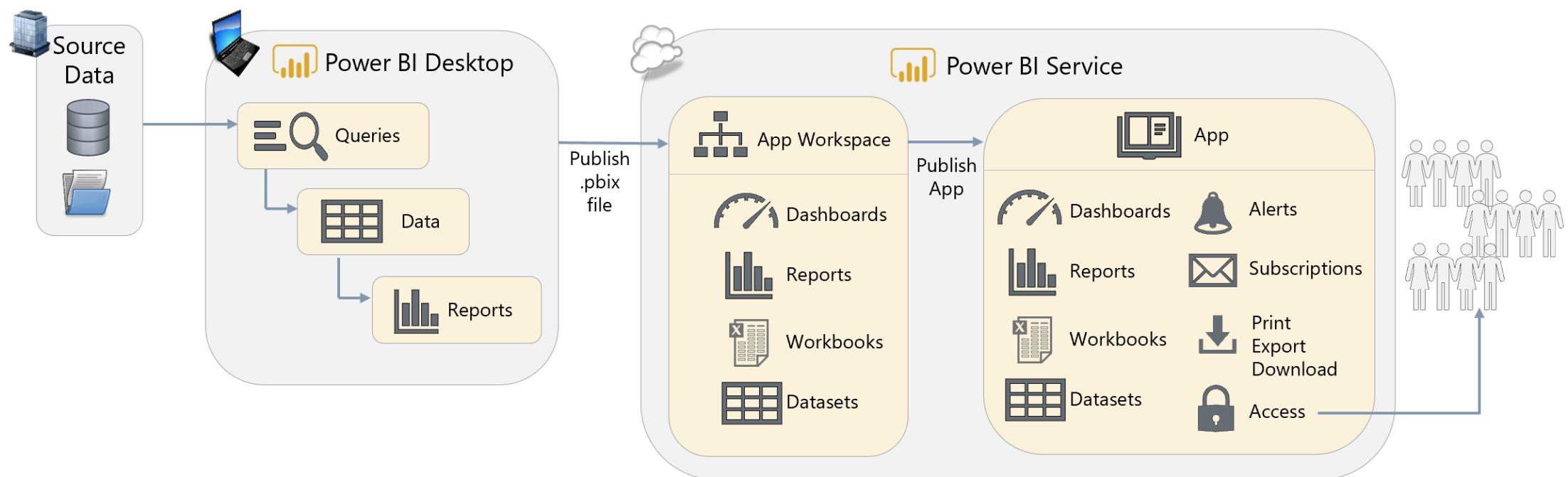
- Organisation
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- **Collaborate**
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# Power BI Workspaces and Apps



# Power BI Workspaces and Apps



## Advantages

- **Workspace = staging**
- **App = prod**
- **Clear for end users**
- **No Pro licence with Premium**

Ongoing changes will be made in the App Workspace area by an author, then published to an App when finalized.

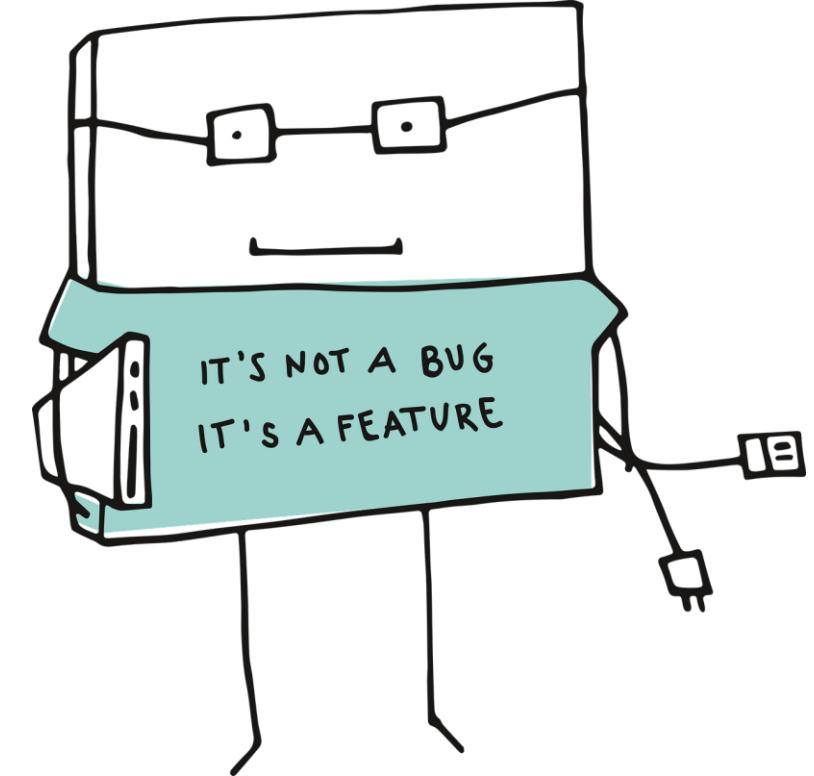
Content is consumed (read-only) in the App by the user population

# Agenda

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# Power BI Premium



# Premium Capacity Metrics App

≡

- Home (preview)
- Favorites >
- Recent >
- Apps
- Shared with me
- Workspaces >
- My Workspace ▾

Search content...

Get apps



Power BI Premium Capa...

MAR 18, 2019



Get more apps from Microsoft AppSource



Selected Capacity

Date Range

Refreshes

Query Durations

Query Waits

Datasets

[Learn more](#)

All

3/18/2019 3/25/2019

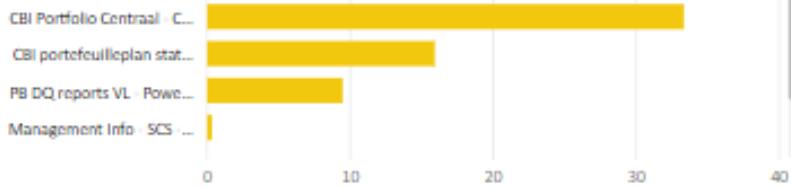
Last Refresh

3/25/2019 3:00:00 PM

## Refreshes

Workspace/Dataset	Total Count	Reliability	Avg Wait Time (minutes)	Max Wait Time (minutes)	Avg Duration (minutes)	Max Duration (minutes)
<b>CBI Analytical Suite</b>	32	84.38%	1.00	2.87	12.97	58.47
CBI portefeuilleplan status VKK & Activiteiten	9	44.44%	0.36	1.32	15.92	22.35
CBI Portfolio Centraal	8	100.00%	1.04	2.63	33.33	58.47
GOV autorization group members	15	100.00%	1.35	2.87	0.34	0.43
GPA - Incremental Refresh - Dev	1	100.00%	0.00	0.00	0.13	0.13
PBI - Refresh Sample	1	100.00%	0.00	0.00	0.13	0.13
<b>PowerBI-DataQuality</b>	7	100.00%	1.82	2.38	9.48	18.50
PB DQ reports VL	7	100.00%	1.82	2.38	9.48	18.50
<b>SCS - Transactions - MiFid</b>	56	100.00%	3.56	25.58	0.34	0.93
Management Info	56	100.00%	3.56	25.58	0.34	0.93
<b>Total</b>	96	94.79%	2.54	25.58	5.21	58.47

## Top 5 Datasets by Average Duration (minutes)



## Top 5 Datasets by Average Wait Time (minutes)



## Hourly Refresh Count and Memory Consumption (GB)

Success Count ● Failure Count ■ Memory Consumption ■ Datasets Memory Limit



## Hourly Average Refresh Wait Times (minutes)

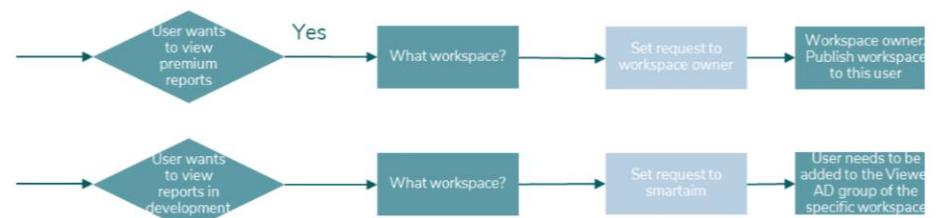


# Monitoring licences

## Premium capacity

- Free viewers
- Premium capability

## License workflow



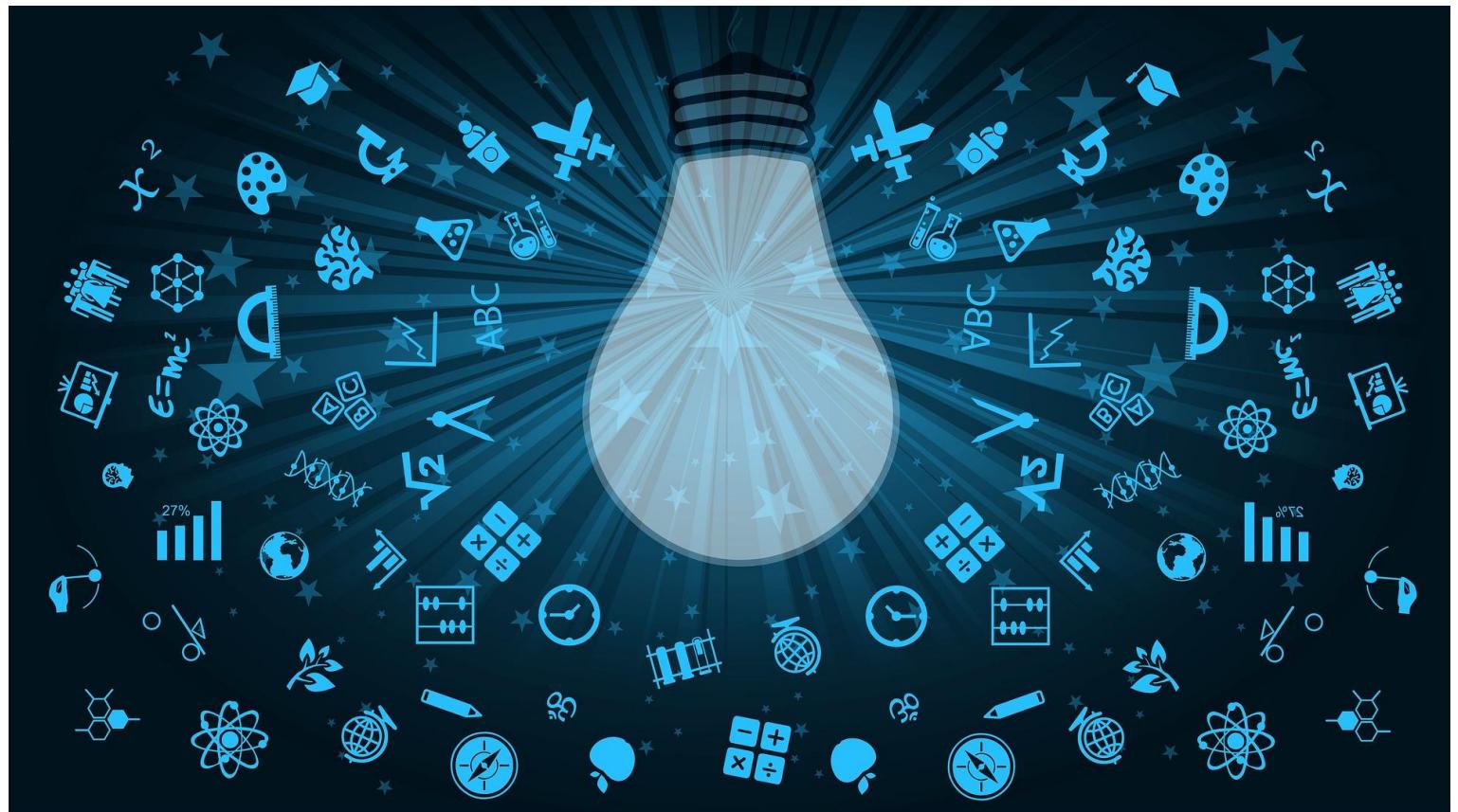
A screenshot of the Microsoft Power BI service interface showing a list of workspaces. The top navigation bar includes 'Clipboard', 'External data', 'Insert', 'Custom visuals', 'Themes', 'Relationships', 'Calculations', and 'Share' tabs. On the left, there are filters for 'State' (Active, Deleted, Removing) and 'Type' (Group, PersonalGroup, Workspace). The main table lists 19 workspaces with columns for Name, Type, User Count, Report Count, Dashboard Count, State, and Description.

Workspace name	Type	User Count	Report Count	Dashboard Count	State	Description
Advanced Analytics	Workspace	7	1	2	Active	Workspace for Advanced Analytics
Architectuur	Group	0	0	0	Active	
Azure Consumption Insights	Workspace	0	4	4	Removing	Azure Consumption Insights
Azure Enterprise Costs Pilot App Workspaces	Group	0	0	0	Removing	
Azure Reports & Dashboards	Workspace	1	2	0	Active	Workspace tbv Azure Reports & Dashboards
BB - Preventief Beheer	Workspace	7	2	0	Active	Preventief Beheer Tool
BI FRC & GRM	Group	0	1	0	Active	
Bijzonder Beheer - Management informatie	Workspace	9	3	0	Active	App workspace voor Management Informatie tbv Bijzonder Beheer
Budget Vs. Forecast Report	Workspace	1	2	0	Active	
CBI Analytical Suite	Group	0	27	4	Active	
CBI Testomgeving	Group	0	15	0	Active	
Client Experience Center	Group	0	0	0	Active	
Client Solutions	Group	0	0	0	Active	
CS EFG Data and Analytics	Group	0	0	0	Active	
D&I Kennisteam Staven	Group	0	0	0	Active	
Data Science	Group	0	2	0	Active	
DGB leden	Group	0	0	0	Active	
DIAD - Rac	Workspace	0	1	1	Deleted	This is DIAD workspace



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- Organisation
  - Data management
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# Knowledge is key

- Power BI (re)training
- BI Focus Group
  - Start: changing content
  - Now: 2 tracks
    - End users
    - In-depth



# Professionalise Power BI administration

- Audit via Identity Management
- 3 AD-groups per workspace
  - Admins, Members, Viewers
- New workspaces (migrate classic ones)
- Power BI super users create workspaces

# Personalised help button



Admin portal

Usage metrics

Users

Audit logs

Tenant settings

Capacity settings

Embed Codes

Organization visuals

Dataflow settings (preview)

Workspaces

## Help and support settings

Publish "Get Help" information

Organization

Getting started

Learn

Community

Get help

Power BI for developers

Privacy & cookies

Accessibility shortcuts

About Power BI



You can go to internal help and support resources from the Power

om:/f/s/ts-BI/EqbhZW2ovNBGoiqtsKCGwMQBeDJCATlu\_03B4X

om/Sites/ts-BI/Lists/Power%20BI%20Forum/AllItems.aspx

ern.nl/tas/public/ssp/content/serviceflow?unid=9f20456baae34

ern.nl/tas/public/ssp/content/serviceflow?unid=0ec6987f62654

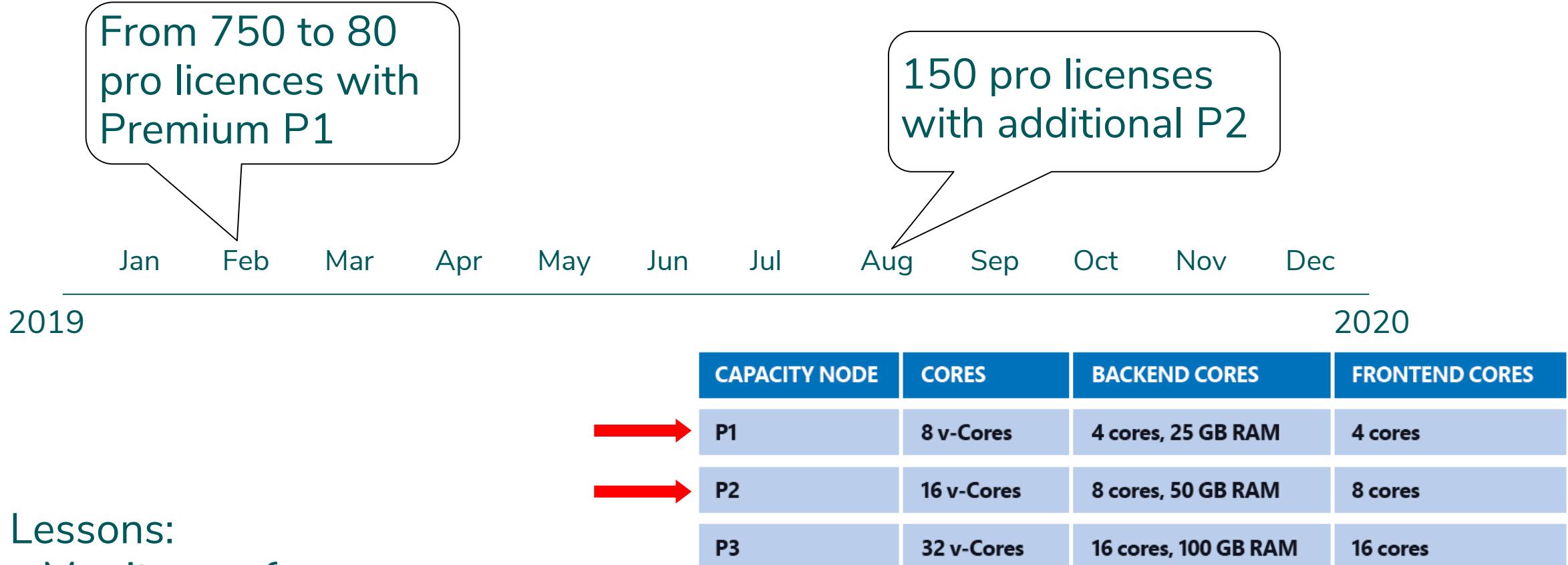
Apply to:

The entire organization

Specific security groups



# Additional Premium Capacity

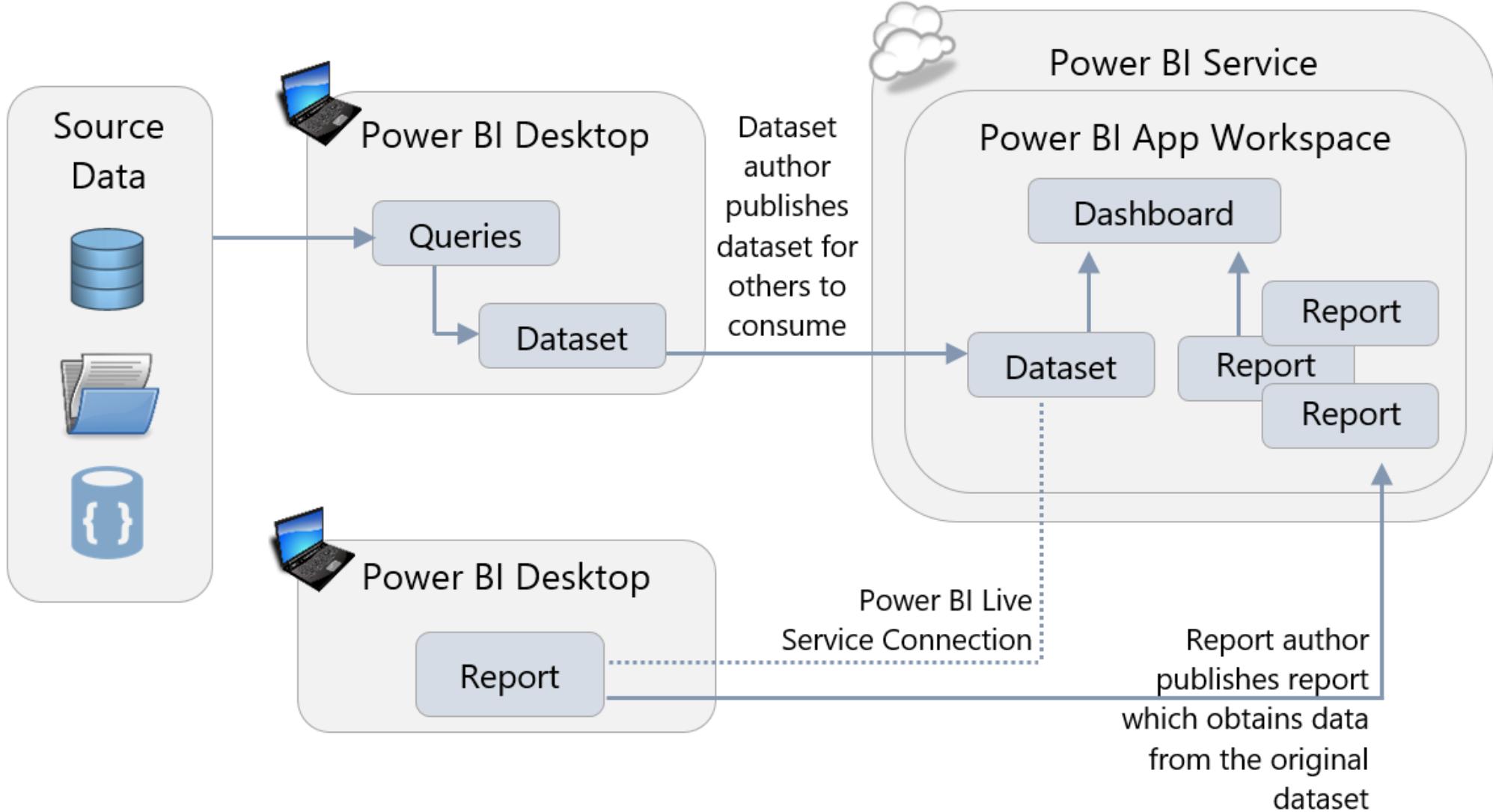


## Lessons:

- Monitor performance
- (We should be) Optimising data models

# Best Practices

- 38 Best practices (Power BIble, adjusted to our needs)
  - DAX, Maintenance/Developing, Modelling, M-Query, Reporting & Visualization, Sharing & Security
- Naming conventions
  - Workspaces: *Department – Team – Name*
  - Gateway Data Sources: *Type – Server – Database*
    - Power BI Idea: Add the ability to Sort and Categorize Gateway Data Sources
- OneDrive for version control
- Monitor Premium capacity
- Choose your Azure region wisely
- Disconnect the dataset from report development



# Agenda

- Organisation
- Data management
- Reporting
- Collaborate
- Premium / Support
- Lessons learned
- **Next steps**



# Roadmap and a look into the future

The present is always on the move; this is called future...

Already started:

- Automatic dataset refresh (PowerShell)
- App workspace creation and pro license workflow



# Roadmap and a look into the future

The present is always on the move; this is called future...

To do:

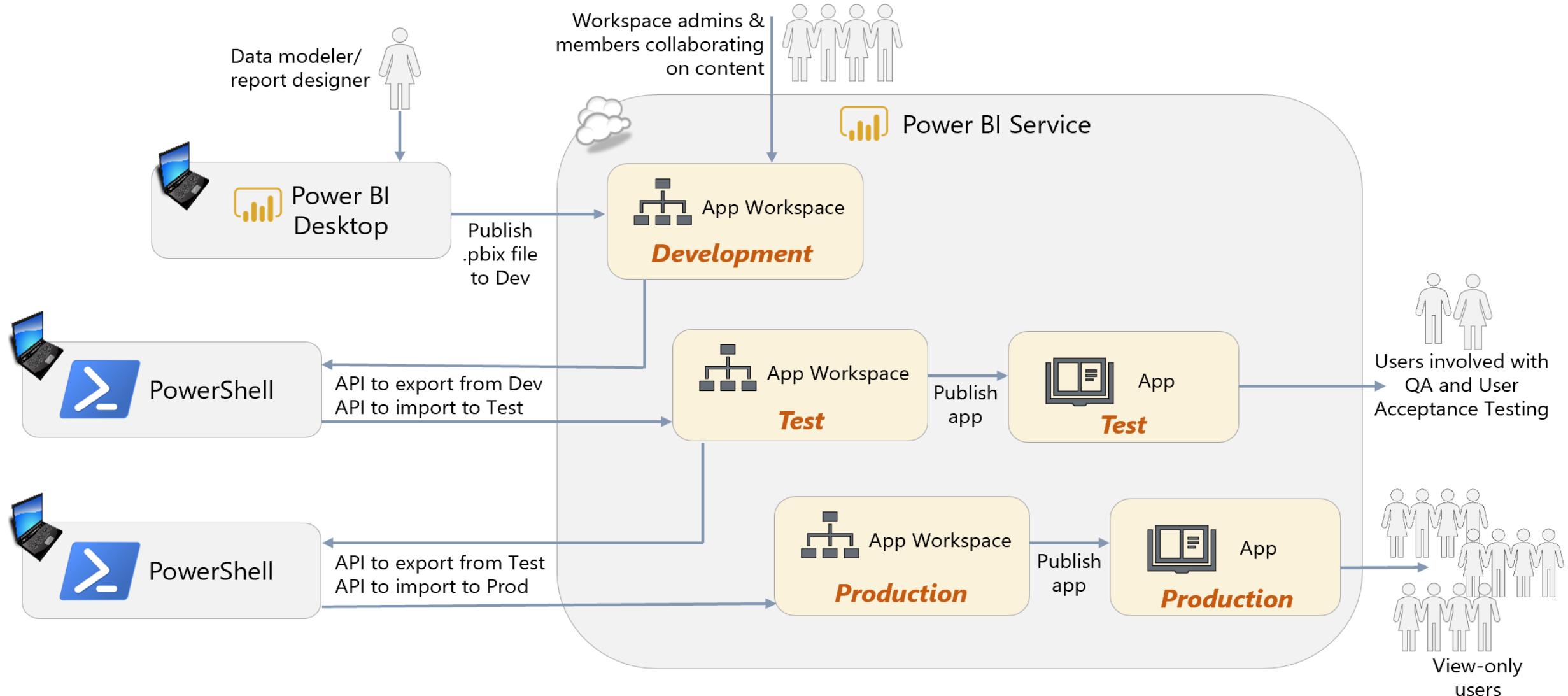
- New workspace migration (Microsoft)
- Check use cases of dataflows and PowerApps
- Long term logging (Premium) and monitor usage
- Development Pipeline / Continuous Delivery



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# Roadmap – development pipeline



# Power BI (Premium) resources

- [Power BI Premium FAQ](#)
- [Whitepaper: Deploying and Managing Power BI Premium Capacities](#)
- [Power BI Premium: Licensing and Capacity Made Easy](#)
- [Whitepaper: Planning a Power BI Enterprise Deployment](#)
- [Whitepaper: Power BI Premium](#)
- [All Power BI whitepapers:](#)
- [Power BI Best practices: Power Blble](#)
- [Power BI Idea for sorting Gateway Data Sources](#)
- [Pixabay.com for free images](#)



**Joyful  
Craftsmen**

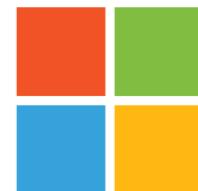
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 Intelligent Technologies

 **avast**

 **Microsoft**

# Thank you and let's connect!



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**vmware®**

 Intelligent **Technologies**

 **avast**

j.schalken@vanlanschotkempen.com  
@JeroenSchalken

n.vanvroenhoven@vanlanschotkempen.com  
@NickyvV

 **Microsoft**

