



THOMAS DE CLERCK

CCO & FOUNDER

GLAD YOU ARE HERE

CUMUL.IO DATA TALKS 2019

Thanks for coming: FOD Economie, Waterleau, JSM, Websteak Marketing, Stad Antwerpen, Gemsotec, De Singel, Mr Prezident, ACTITO, KBC, The Park Playground, Dox Acoustics, Talmundo, Customs4Trade, Proximus, Commspace, Cospecto, Hydro66, Belfius, Ebo Enterprises, iReachm, Link2Fleet, Smartfin, Event Pulse, Field & Concept, Rein4ced, Aertssen, Tomorrowland, Forganiser, Websters, Leuven Mindgate, UnifiedPost, Sweepatic, Hireme, ProSoccerData, Prato, Pencil42, Lemon, Flexxio, Adshot, Q7Leader, Creafin, Semko, Codefever, Qualifio, Stad Leuven, FESG, Brandweer Zone Antwerpen, Smart Profile, Nurama, Alexandria.Works.

Learn about all Things Data:

from keynote speakers and
from each other
in a 'sparkling' setting



What to expect

DATA TALKS TIMELINE



Proximus

Real-time
Crowd Management

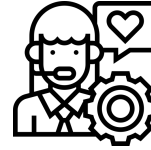
14h40 - 15h00



Cumul.io

How to choose your
data stack

15h00 - 15h20



Commspace

Integration
Use Case

15h20 - 15h40



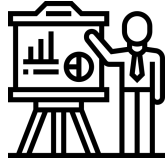
30' Break

Drink, Mingle,
& Share

15h40 - 16h10

What to expect

DATA TALKS TIMELINE



iReachm

Internal Reporting

Use Case

16h15 - 16h35



City of Antwerp

Integration

Use Case

16h35 - 17h00

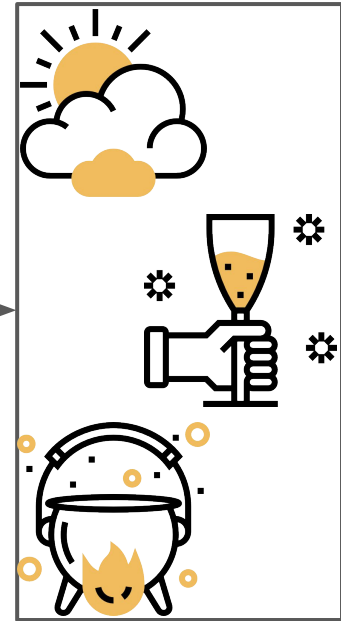


Cumul.io

Integration
improvements

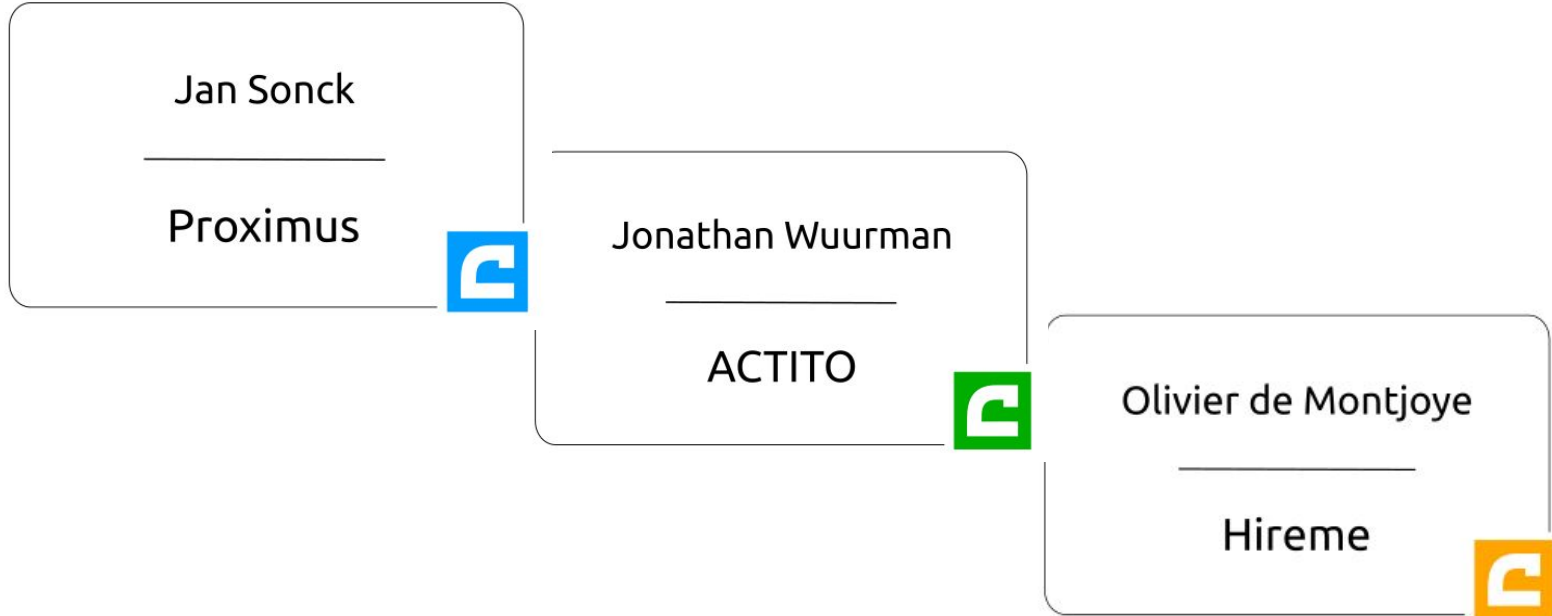
17h00 - 17h30

Networking



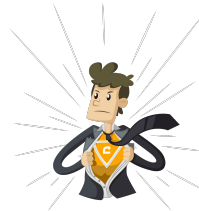
Learn from each other

SPEEDDATING



Learn from each other

CONVERSATION STARTERS



Leave us your feedback

REVIEW BOOTH





GERDY SEYNAEVE

INNOVATION & BUSINESS
DEVELOPMENT

PROXIMUS

Using data to improve safety during ‘De Ronde Van Vlaanderen’



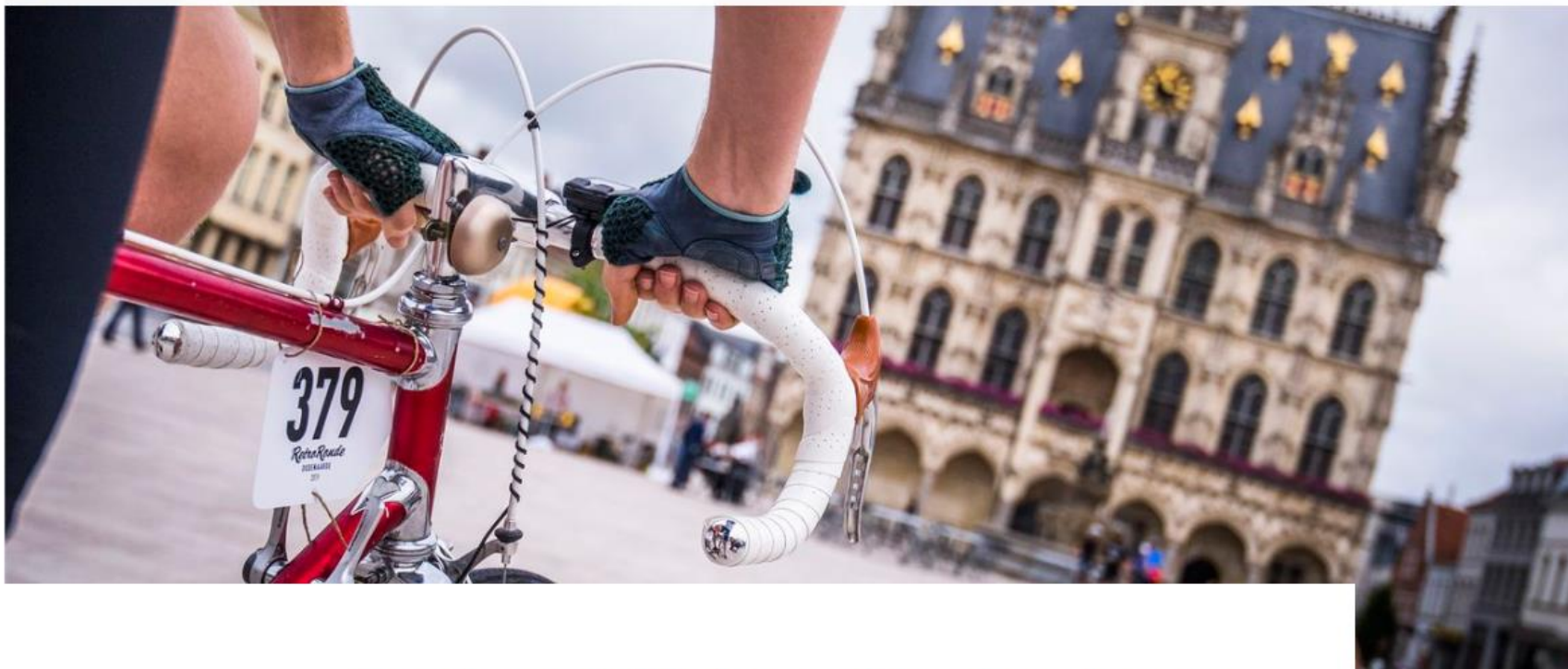


#analytics

Using data to improve safety
during Ronde Van Vlaanderen

24 September 2019

proximus



Proximus telde bezoekers Ronde van Vlaanderen via simkaarten: 40.000 mensen stonden renners aan eindmeet op te wachten



Adel Mouchalleh
di 02 jul ⌚ 14:08

Our big data foundation layer



Daily appr. **2 billion**
records with approximate
location

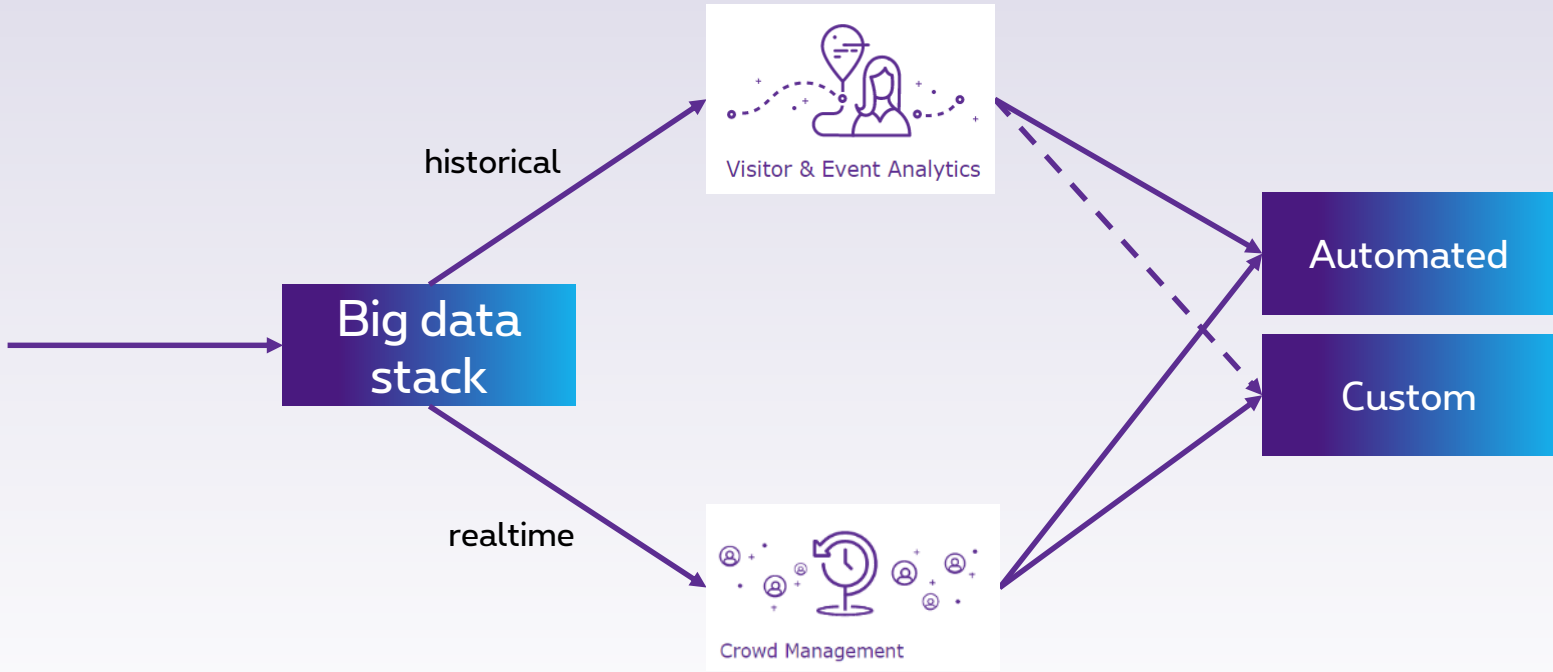


Data captured
24/7

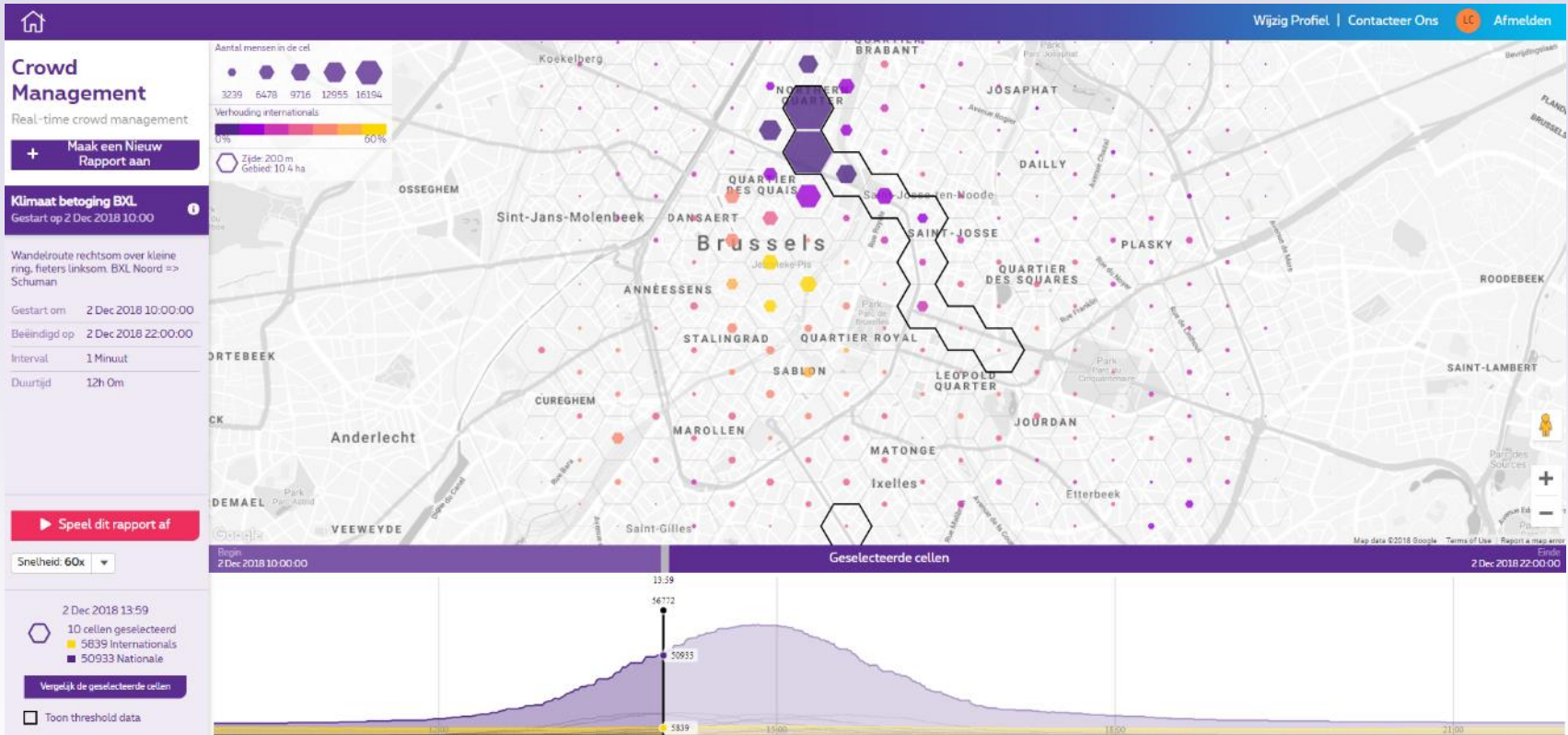


Privacy by design
Anonymised &
aggregated

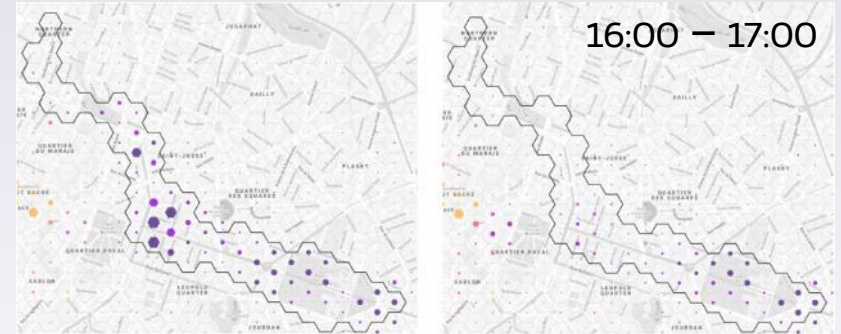
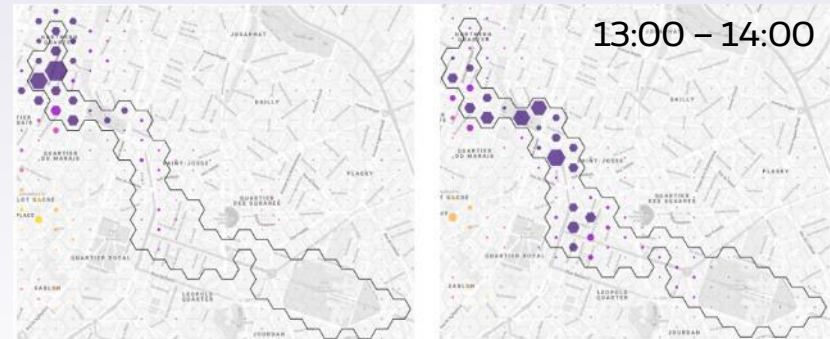
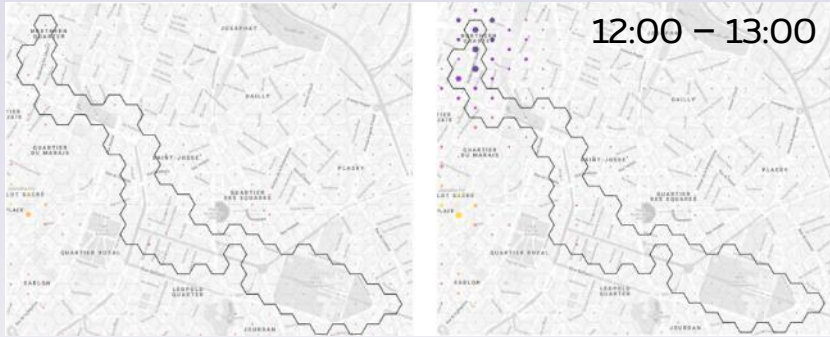
Automated reporting
Manual reporting



Real Time Crowd Management

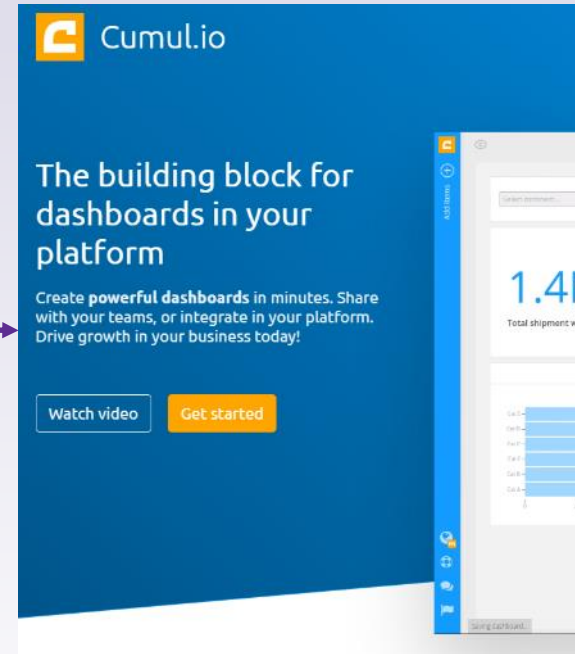
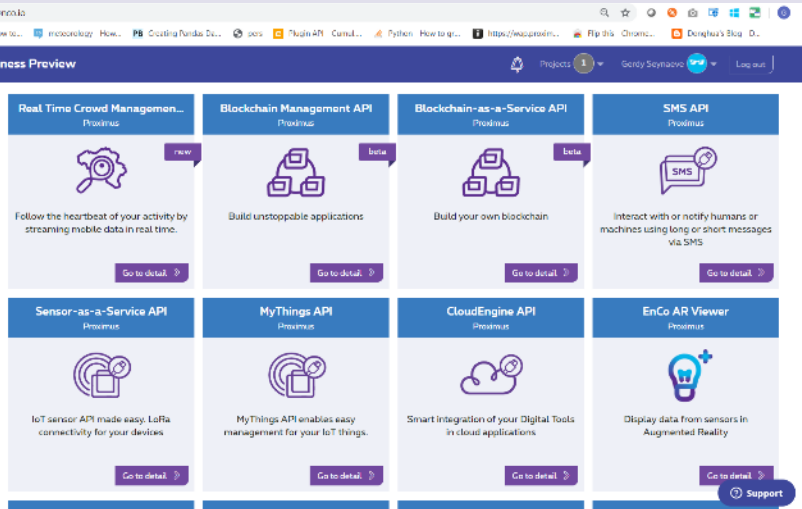


Near Real Time - example



March for climate Brussels (12th Feb 2019)

The need for custom dashboards

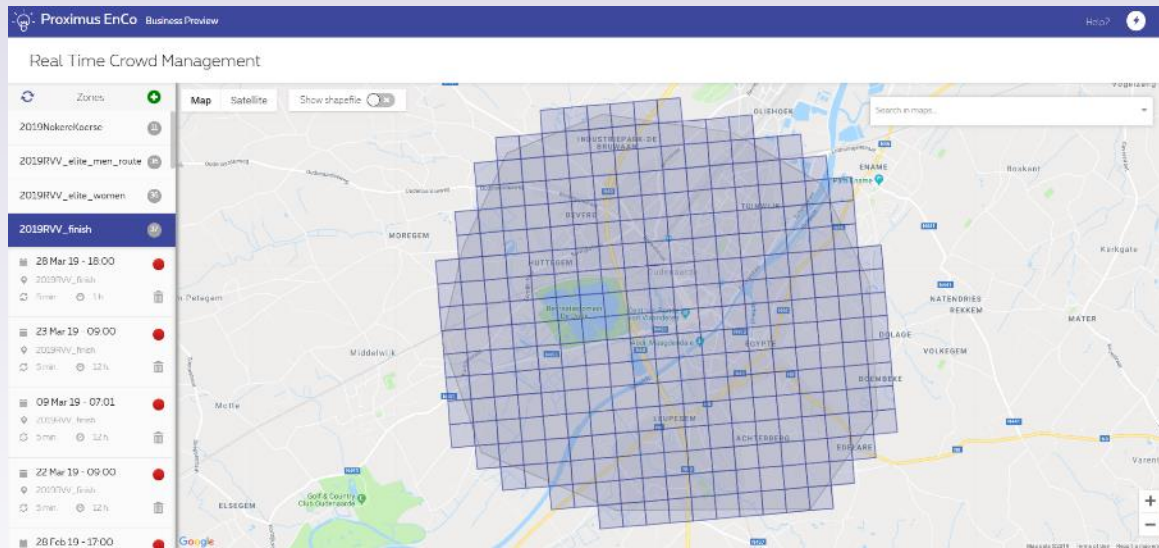


<https://enco.io>

Real Time Crowd Management data through API

The need for custom dashboards

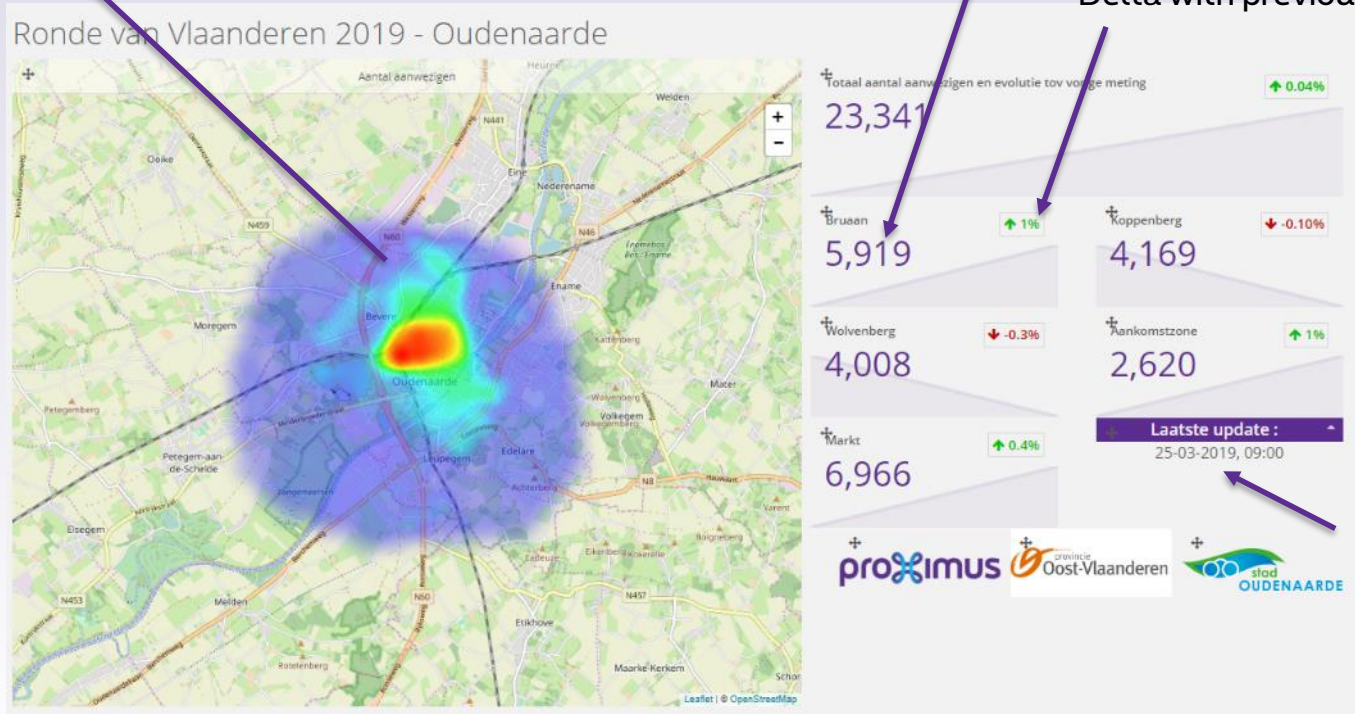
1. Define zone
2. Schedule streams
3. Process streams in realtime
4. Visualise through cumul.io



Dashboard during ronde van Vlaanderen

Absolute amount of people present

Heatmap with @ people present



Delta with previous measurement

Update every 5 minutes

datanews

Proximus krijgt een plekje bij Microsoft België

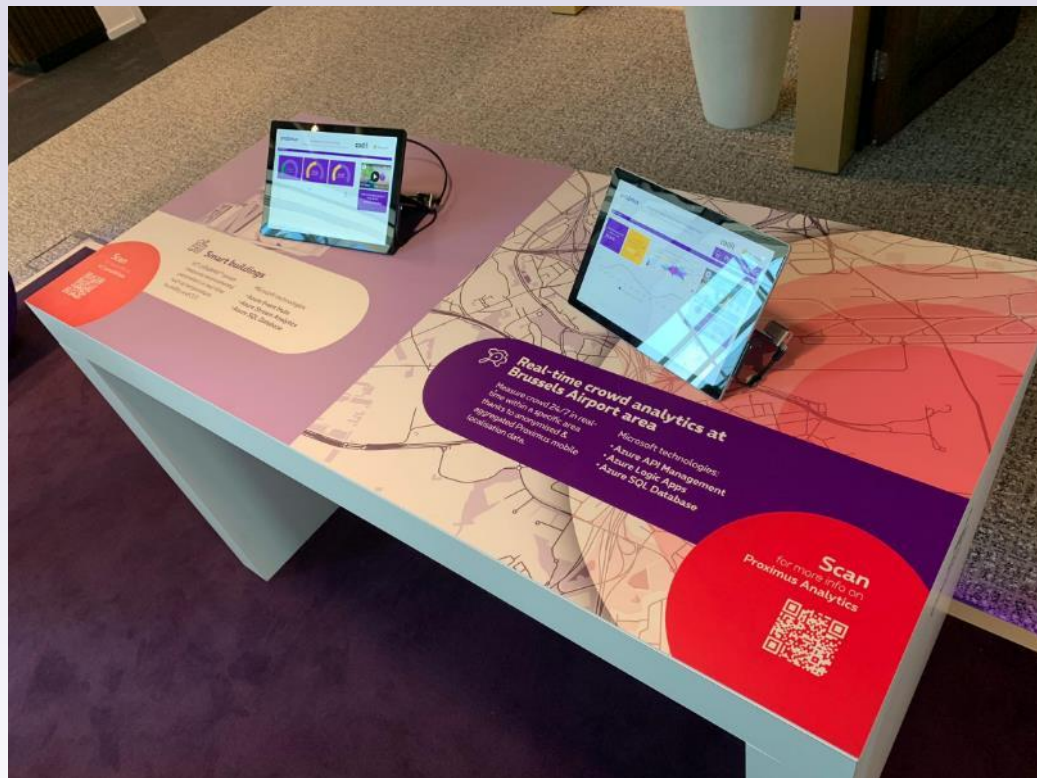
13/09/19 om 10:09 Bijgewerkt om 09:24 Bron : DataNews



Pieterjan Van Leemputten

is redacteur bij Data News

Wie bij Microsoft België op bezoek gaat, ziet daar voortaan prominent een stand van Proximus staan. De twee technologiereuzen gaan voortaan (nog) meer samenwerken.



proximus

Last Updated On

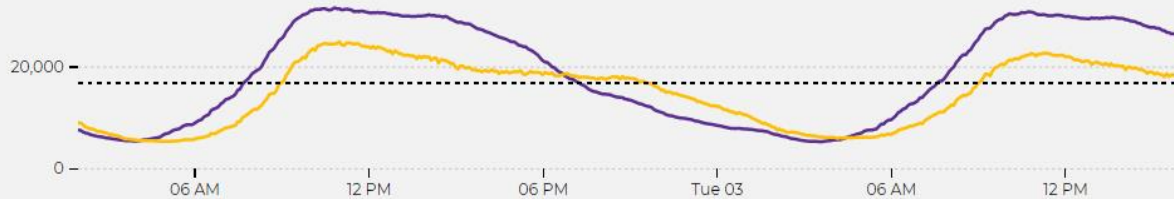
03-09-2019, 16:05

National people
present in airport zone

25,600 ↓ -1%

International
people present in
airport zone

17,880 ↓ -2%



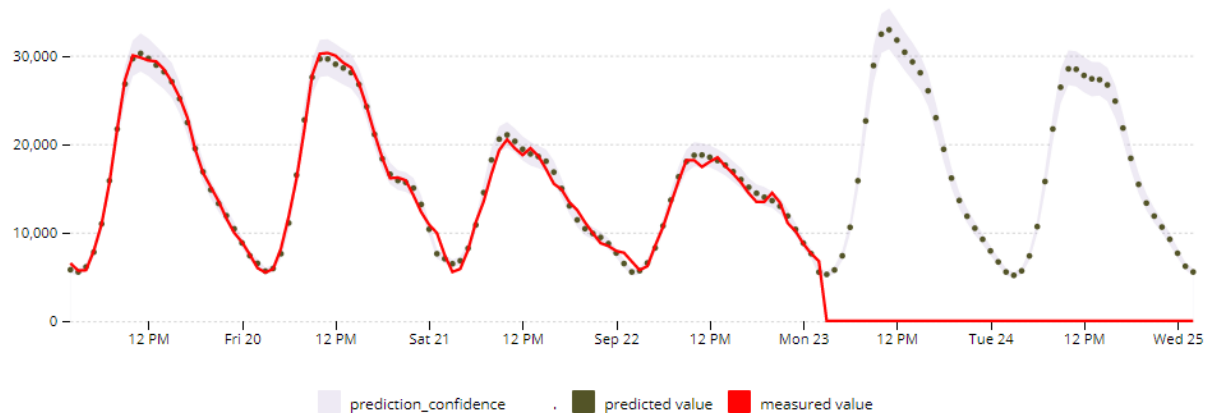
National people International people

Want to know more ?
Visit us on
proximus.be/analytics



Predicted traffic @ airport

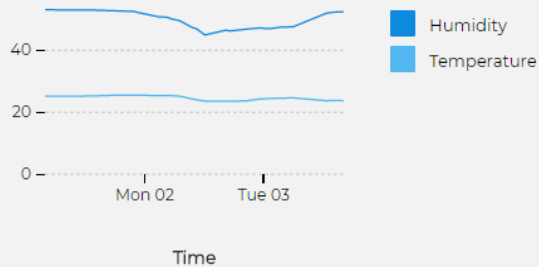
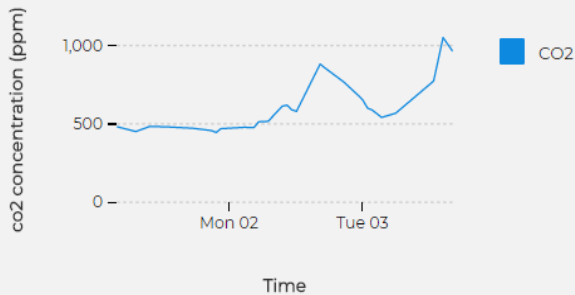
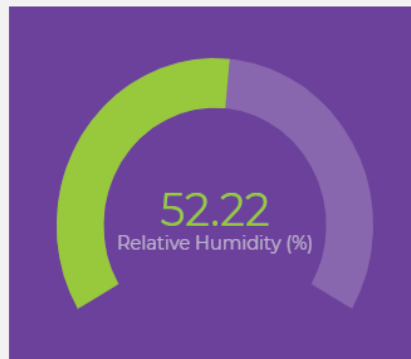
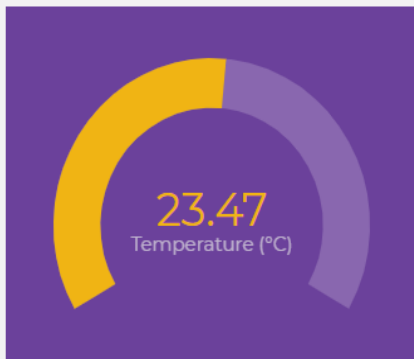
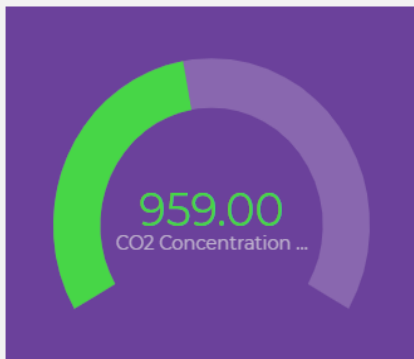
Prediction based upon the last 2 weeks vs measured - national



636
RMSE

Last Updated On

03-09-2019, 16:20



Want to know more
? Visit us on
proximus.be/iot

The strengths of Cumul.io, the company & service

- The team is very professional & easy going
- They developed a niche product which complements more complex analytics apps (e.g. powerBi/Tableau/...)
- The cumul.io support is fantastic
- The applied SaaS model offers all benefits of the cloud
- Integration & sharing made easy (tip : Automated refresh through API call)



More info ?

gerdy.seynaeve@proximus.com

www.proximus.be/analytics



HAROEN VERMYLEN

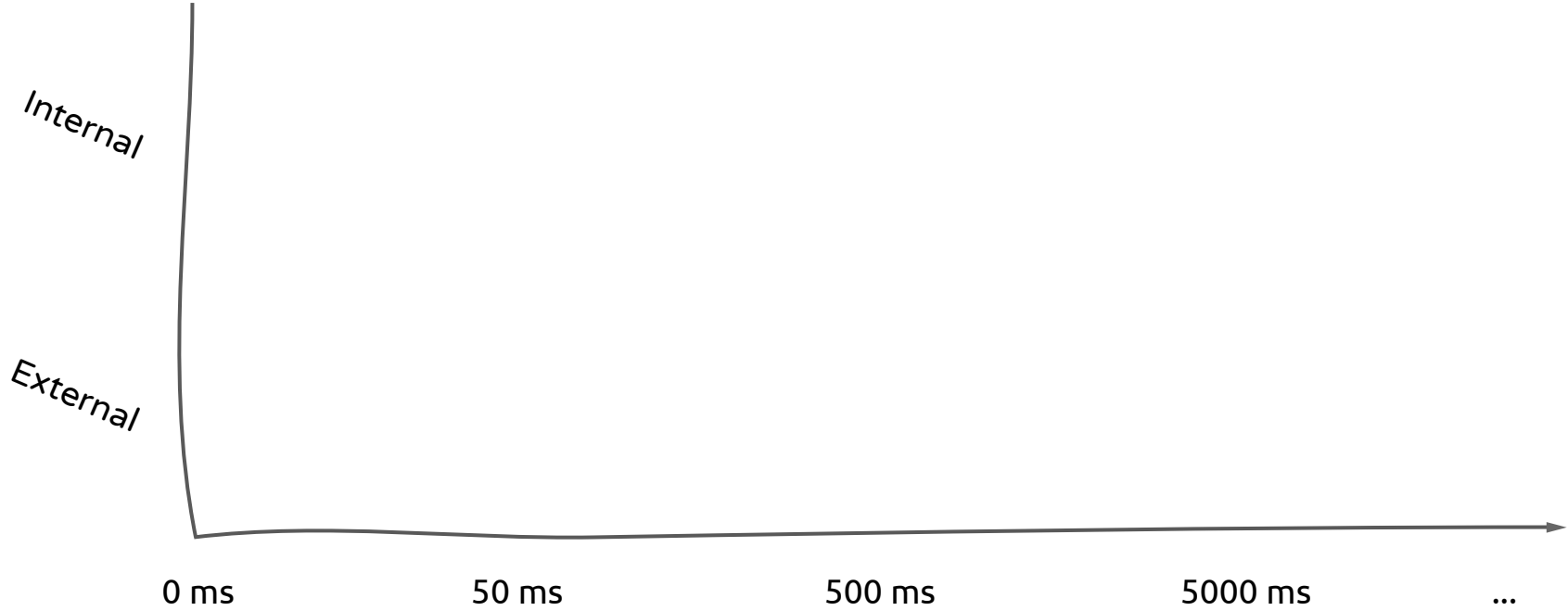
CTO & FOUNDER

CUMUL.IO

How to Choose Your Data Stack

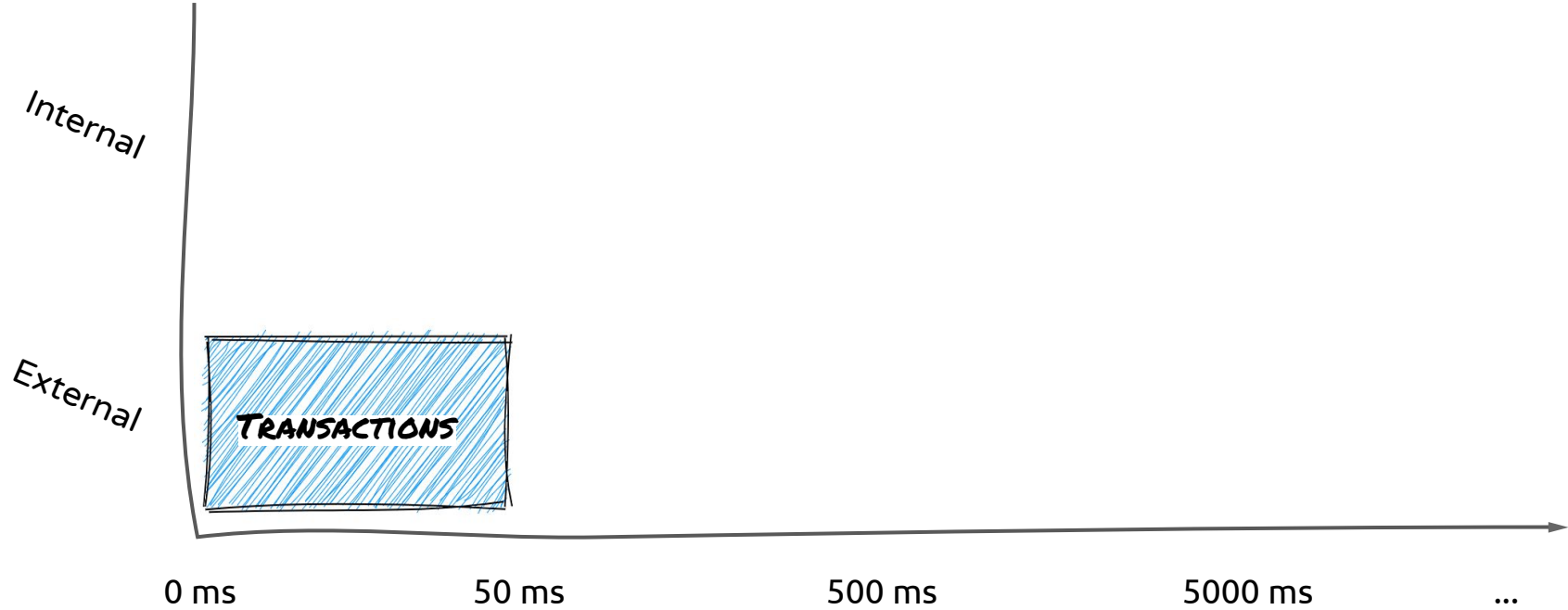
The latency sweetspot

25



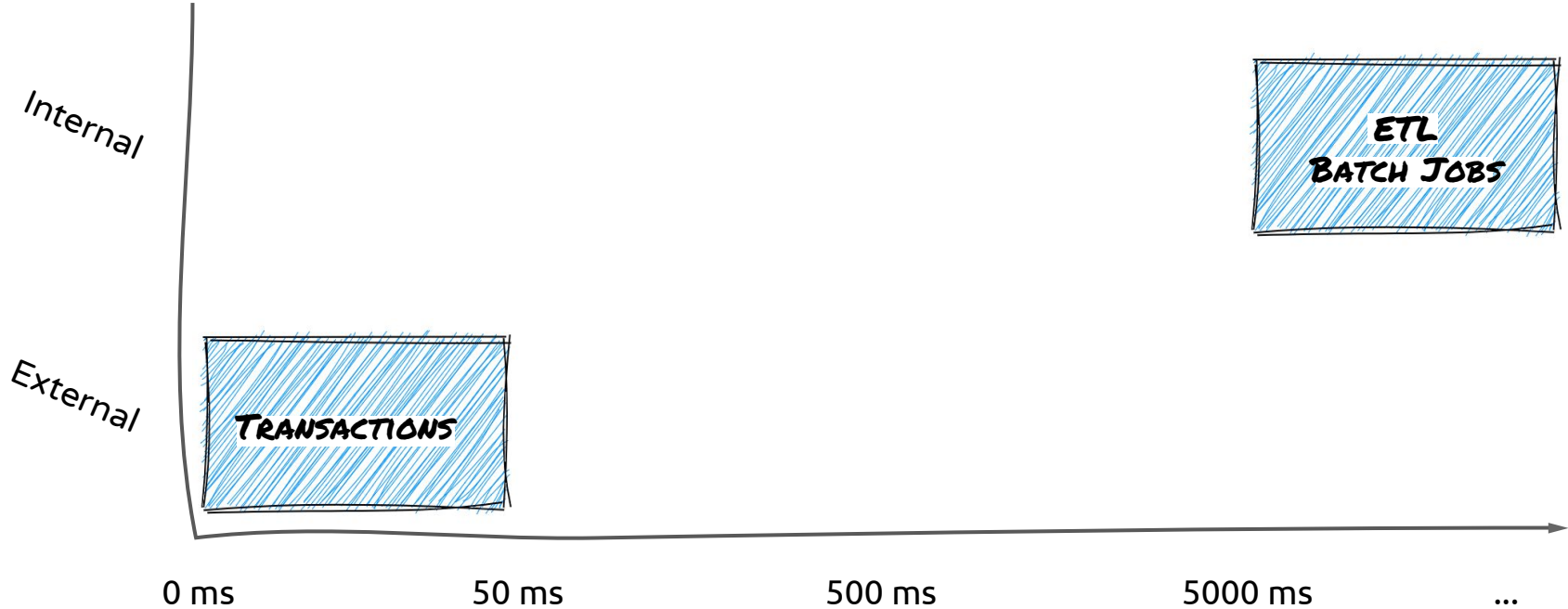
The latency sweetspot

26



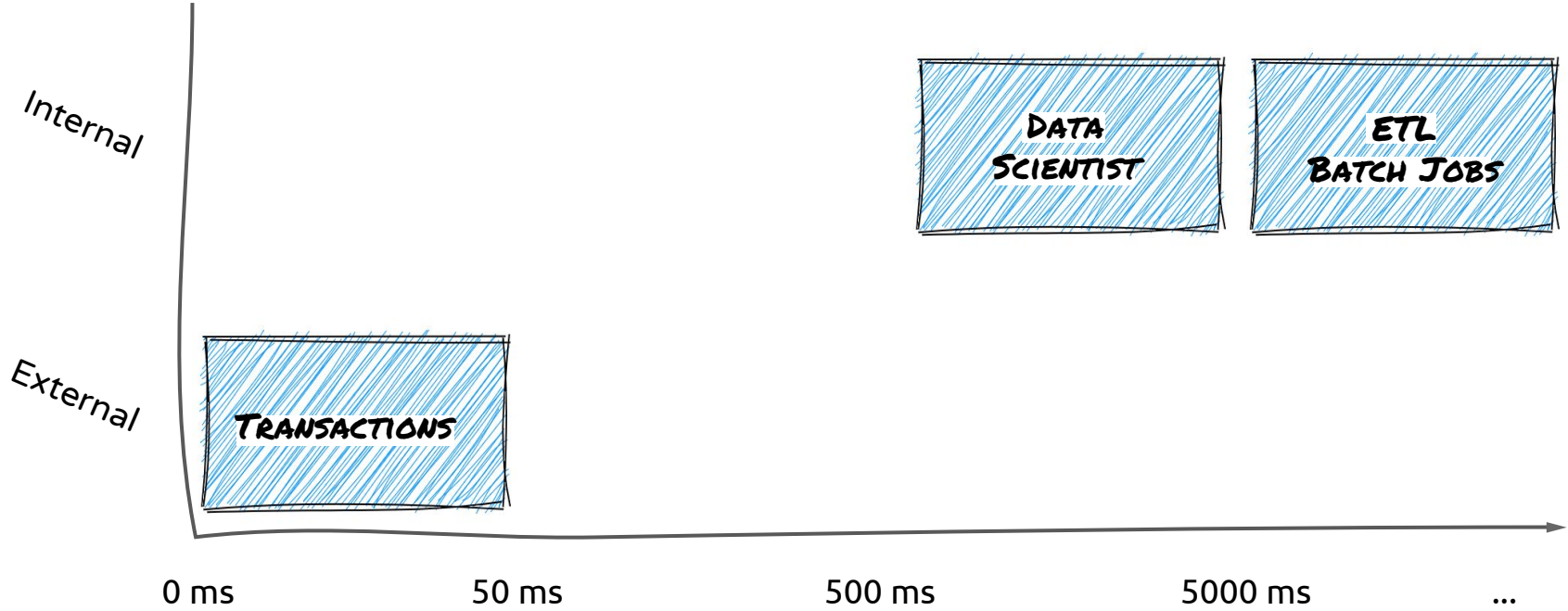
The latency sweetspot

27

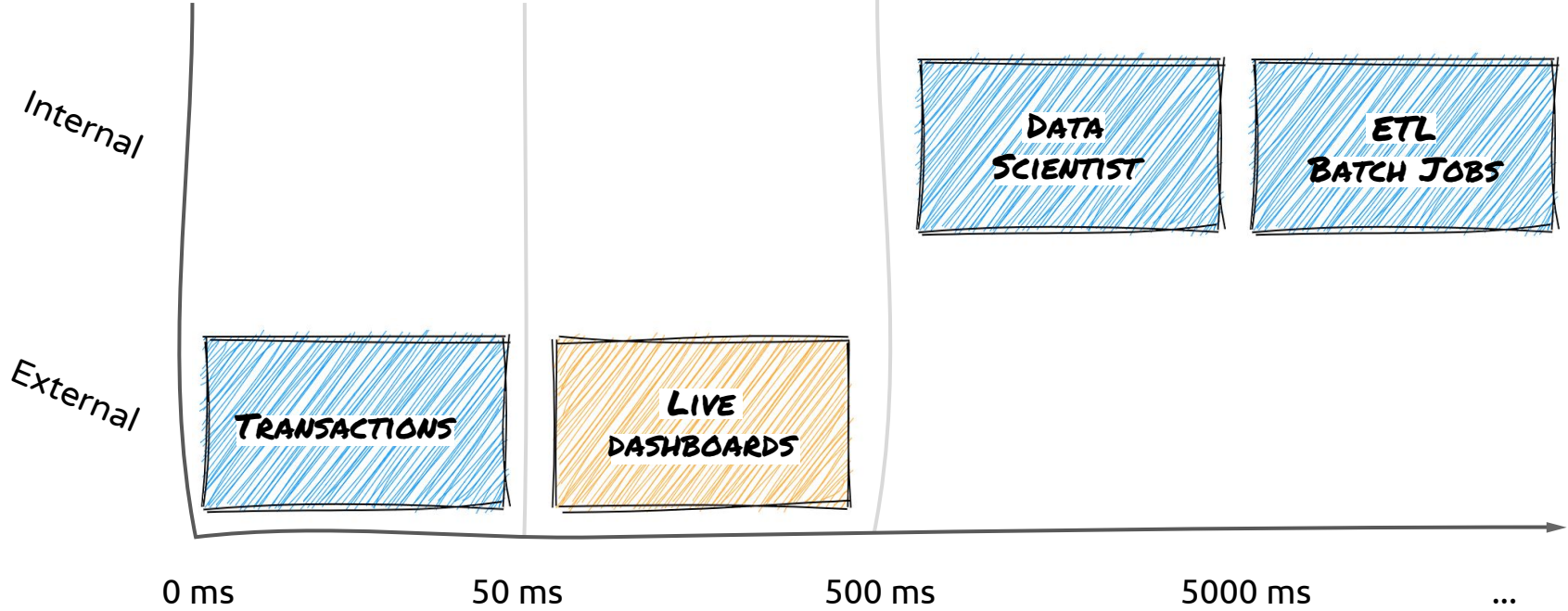


The latency sweetspot

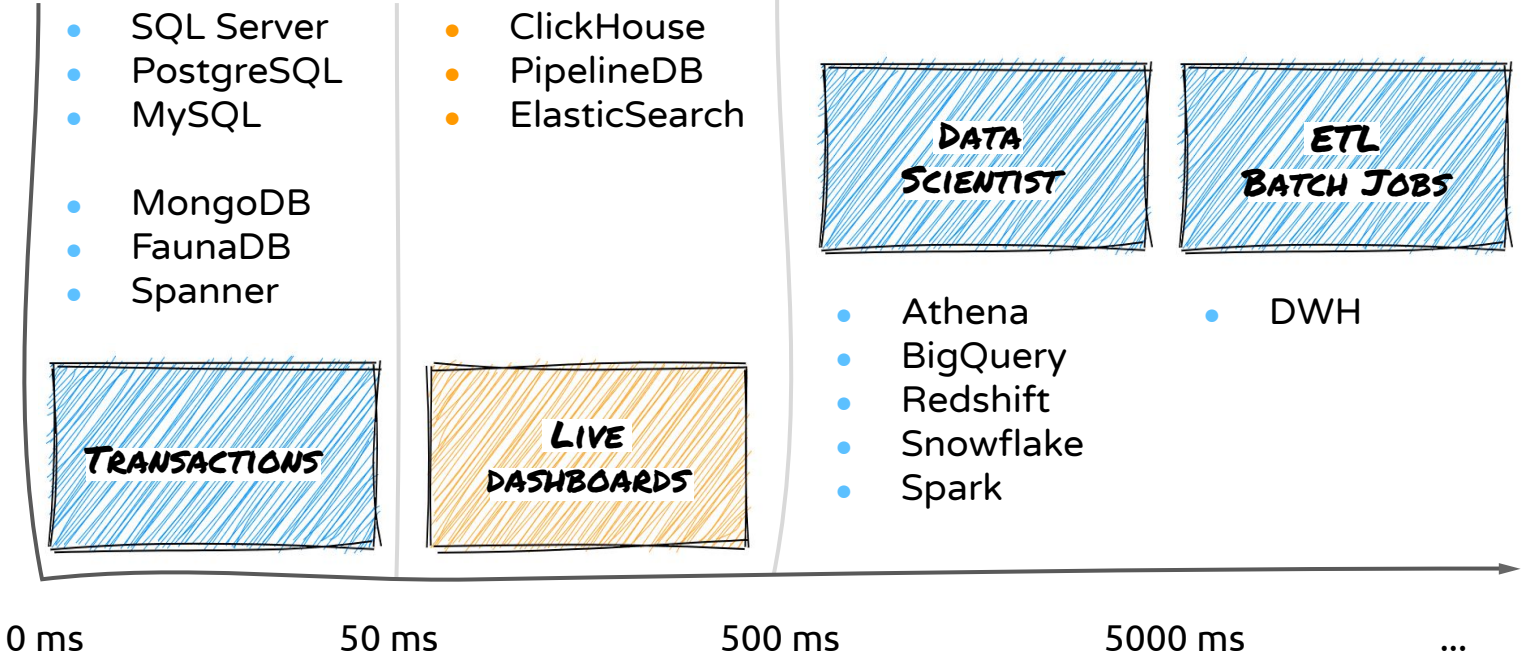
28



The latency sweetspot



The latency sweetspot



OLTP

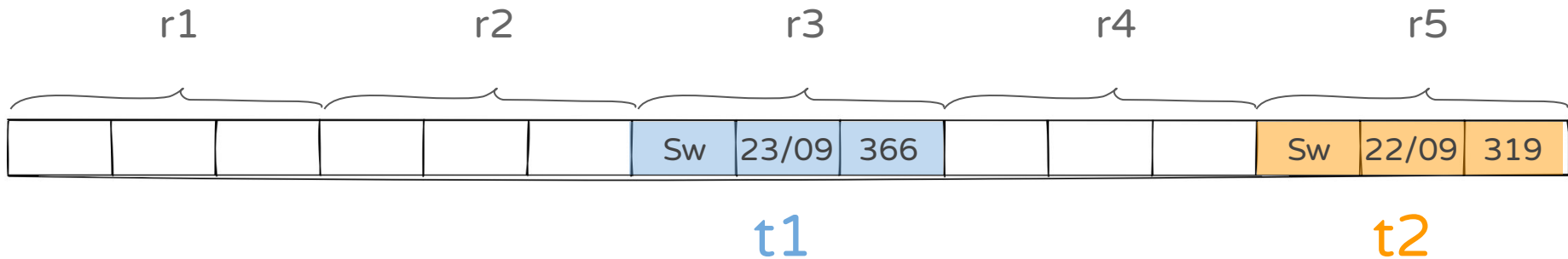
vs.

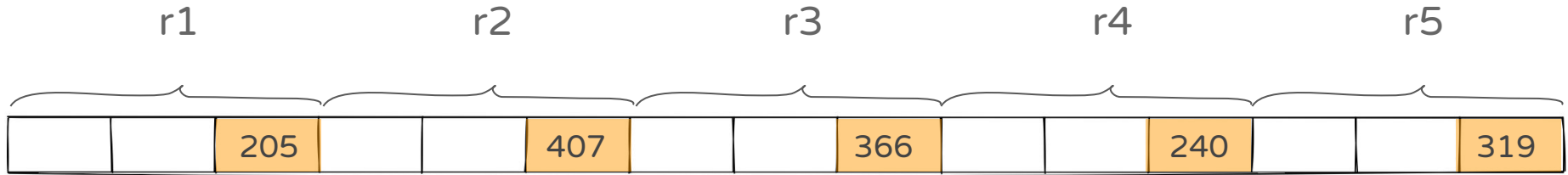
OLAP

	Burrito	Date	Weight (g)	
r1	Salty	2019-09-24	205	
r2	Savoury	2019-09-24	407	
r3	Sweet	2019-09-23	366	t1
r4	Salty	2019-09-22	240	
r5	Sweet	2019-09-22	319	t2

q1 = AVERAGE(Weight)

Burrito	Location	Weight
Salty	2019-09-24	205
Savoury	2019-09-24	407
Sweet	2019-09-23	366
Salty	2019-09-22	240
Sweet	2019-09-22	319





q1 = AVERAGE(Weight)

Burrito

Date

Weight

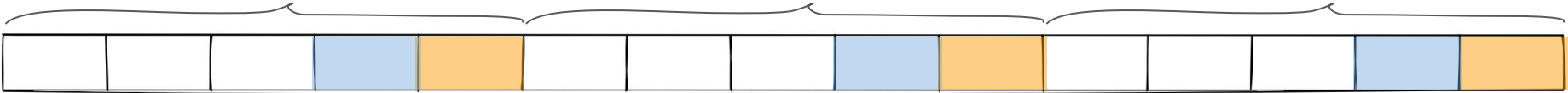
										205	407	366	240	319
--	--	--	--	--	--	--	--	--	--	-----	-----	-----	-----	-----

q1 = AVERAGE(Weight)

Burrito

Date

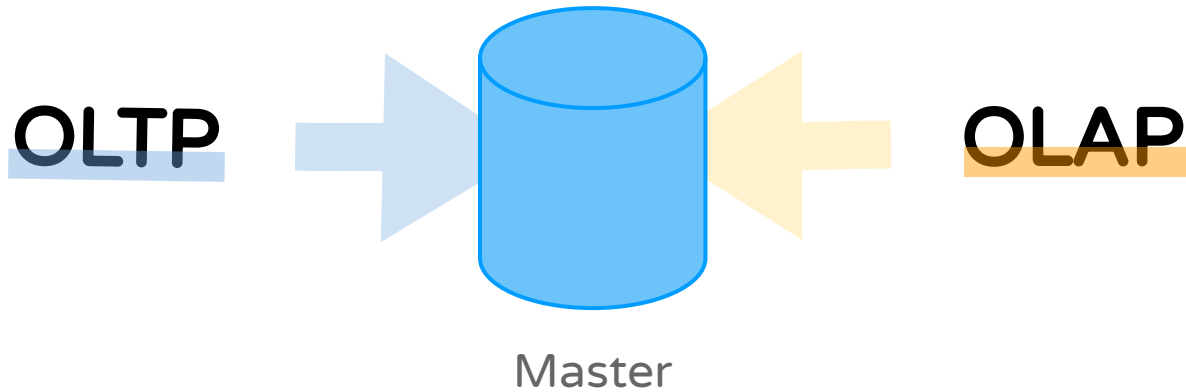
Weight



t1 t2

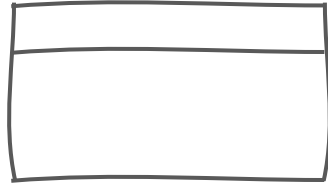
Mixing OLTP & OLAP

38



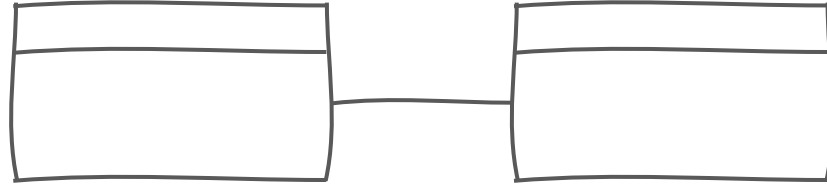
Mixing OLTP & OLAP

39



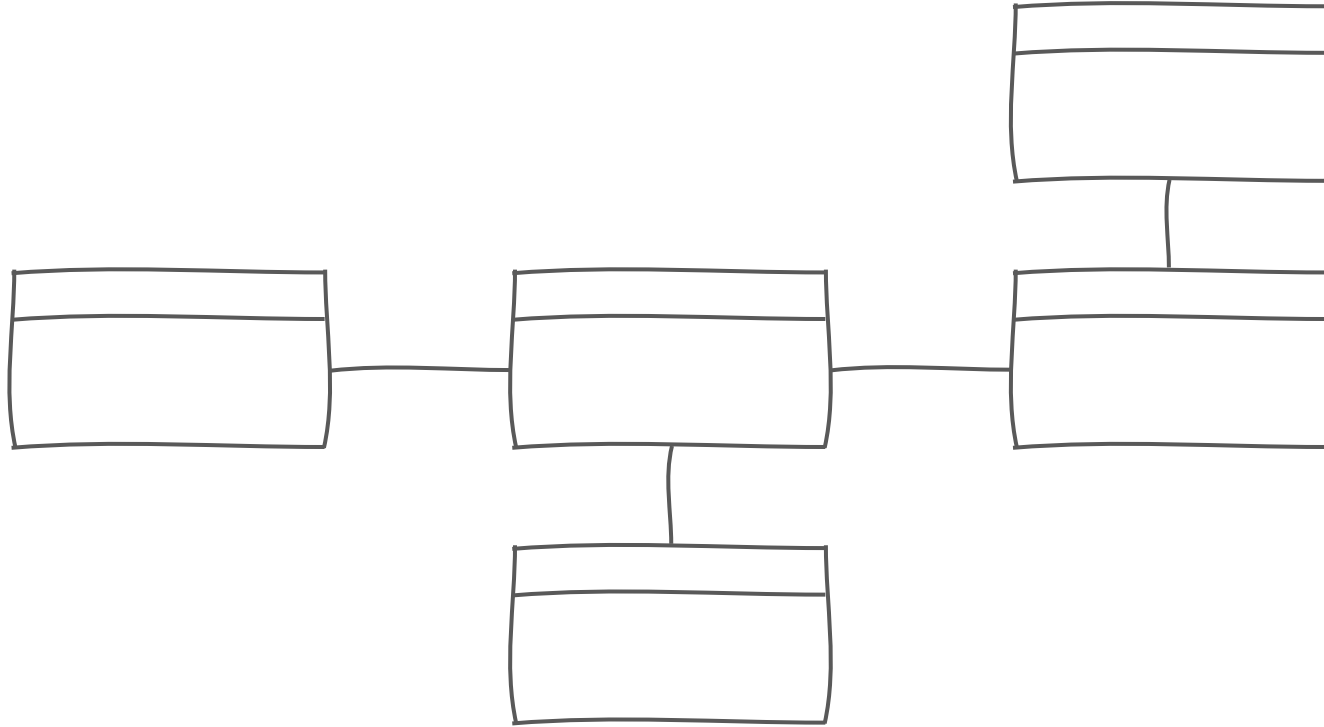
Mixing OLTP & OLAP

40

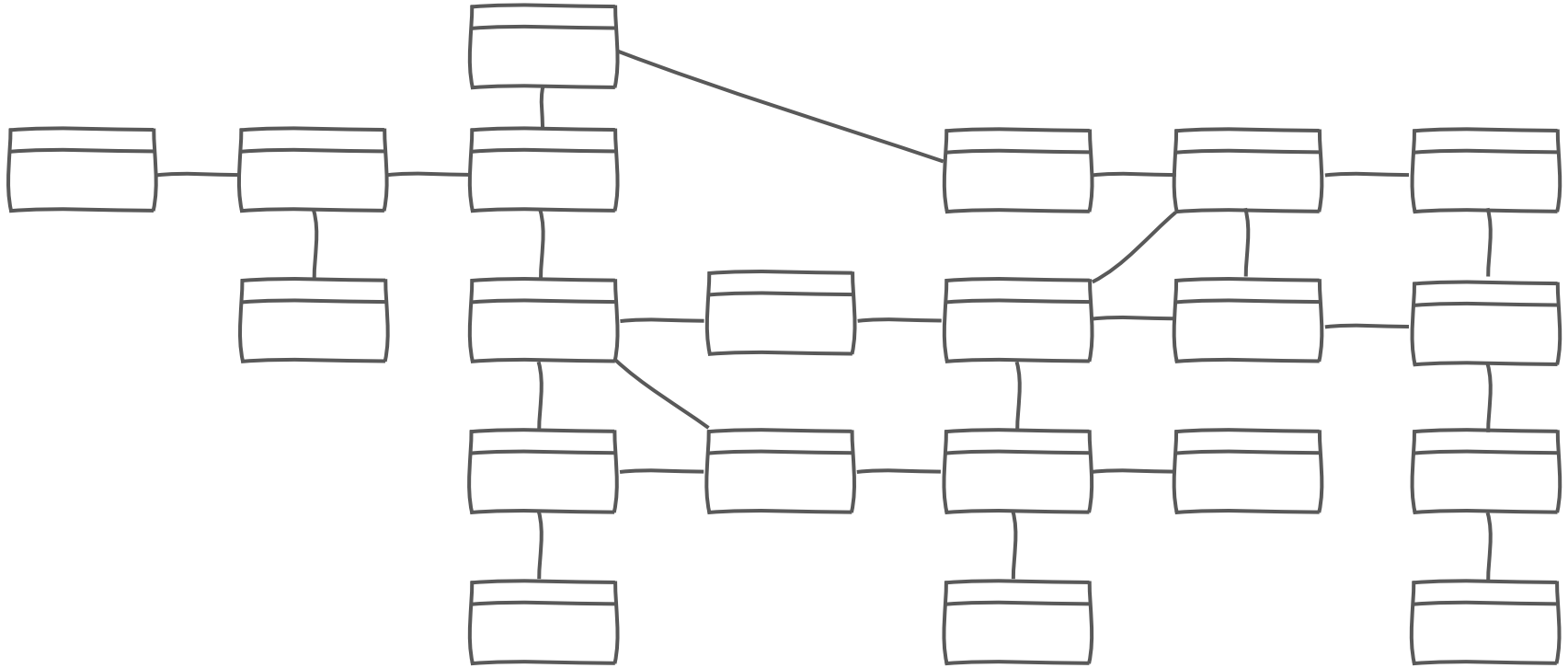


Mixing OLTP & OLAP

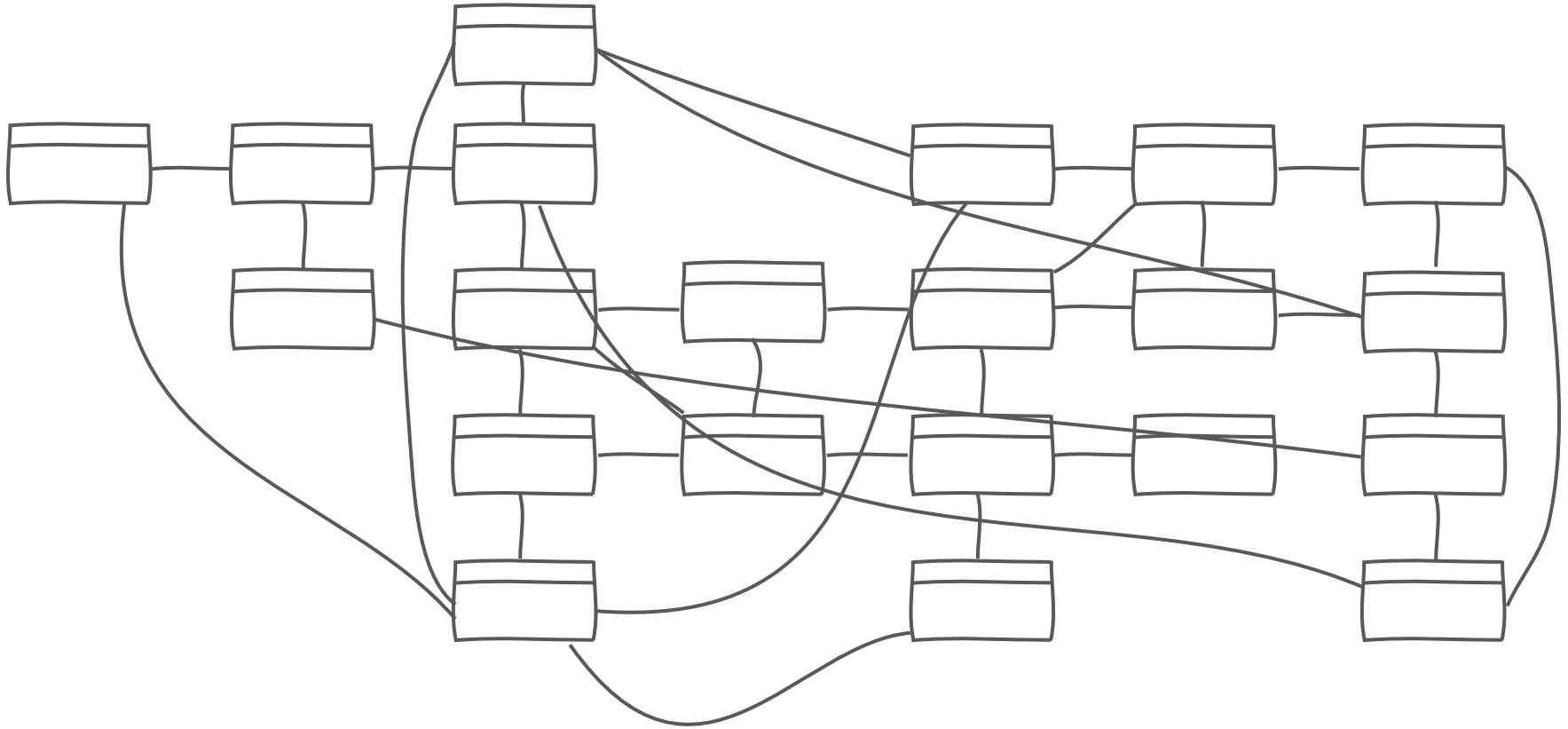
41



Mixing OLTP & OLAP



Mixing OLTP & OLAP



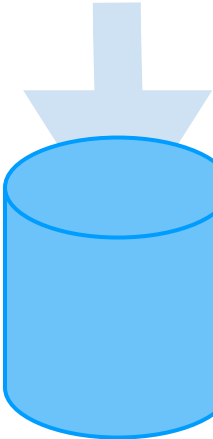
4 ways forward

44



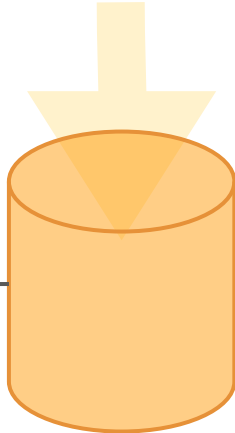
Boosting your DB

OLTP

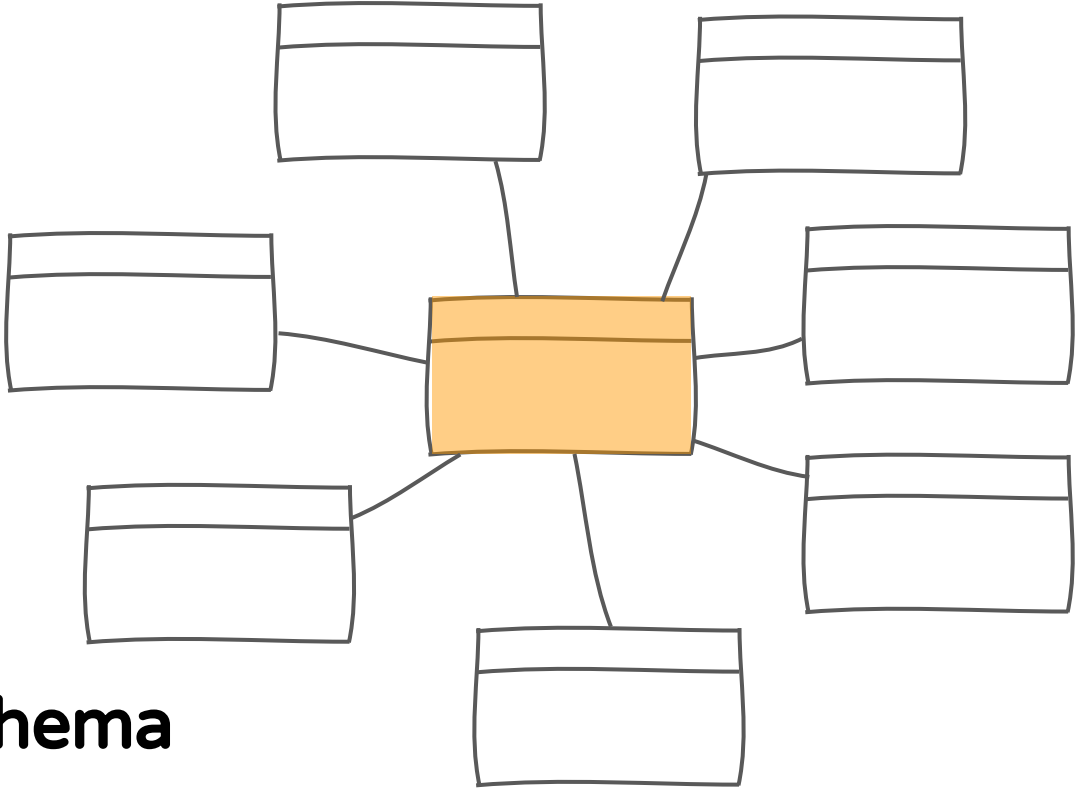


Master

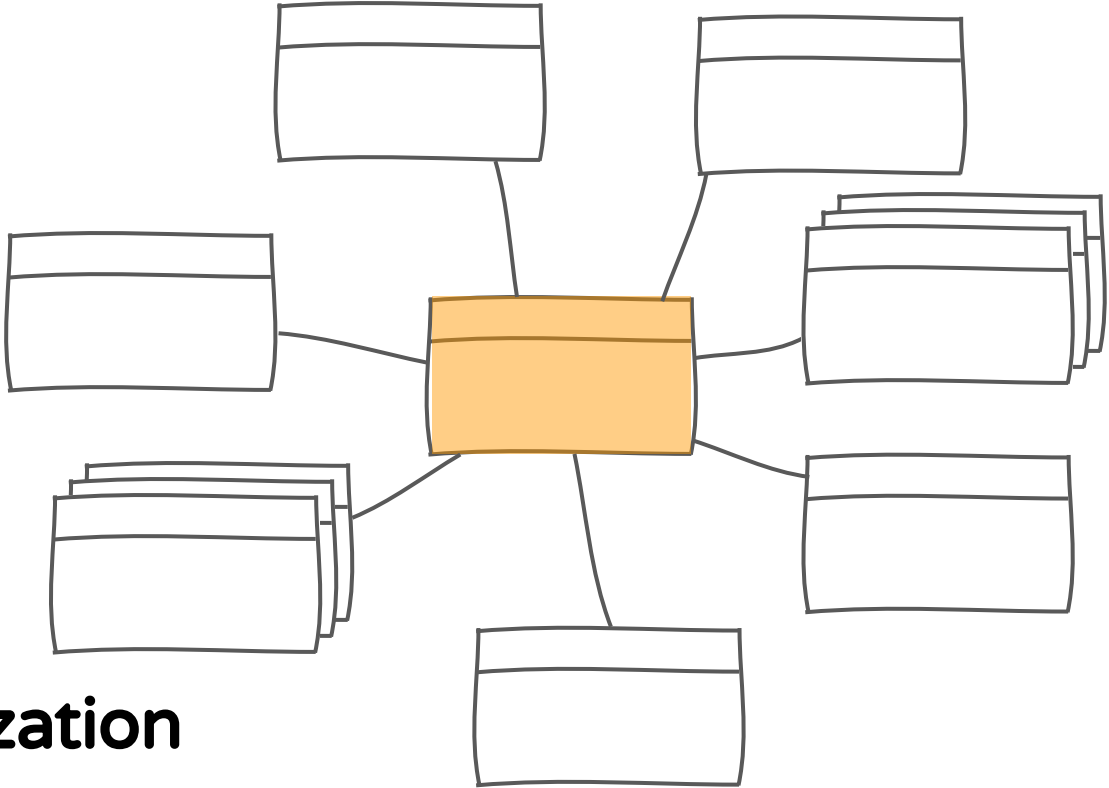
OLAP



Read-replica



Star schema



Historization



Time series DBs

TimescaleDB, InfluxDB, ...

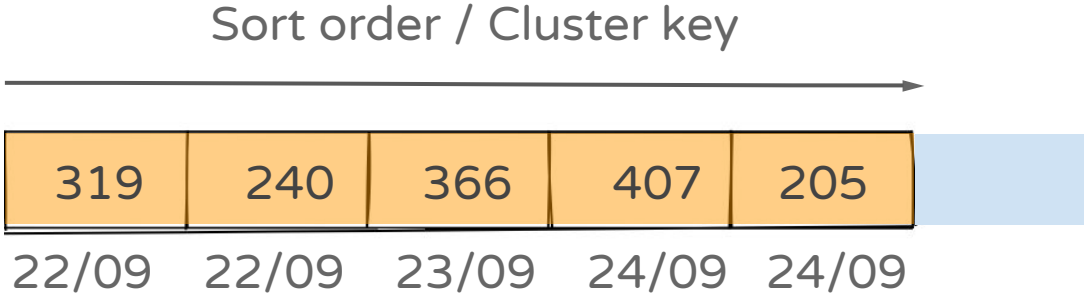


Time series DBs

205	407	366	240	319
24/09	24/09	23/09	22/09	22/09

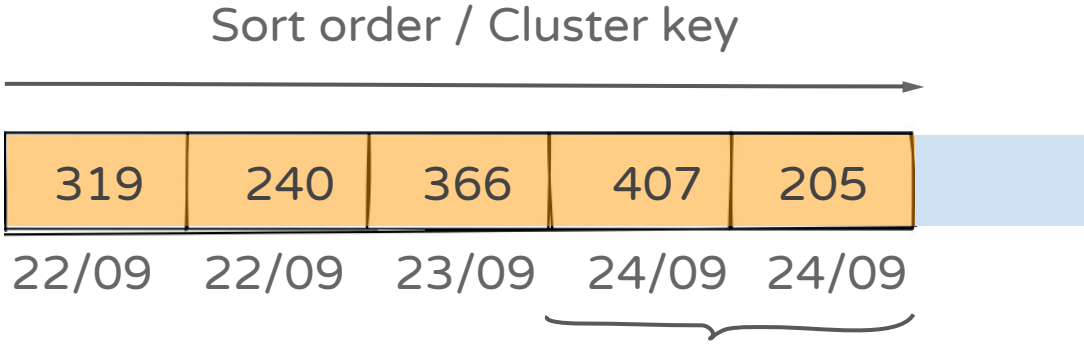


Time series DBs



2

Time series DBs



q1 = AVERAGE(Weight) for 24/09



Streaming

PipelineDB, KSQL (on Kafka), Storm, ...



Streaming

REFINED QUERY: q1 = AVERAGE(Weight) per Burrito Type

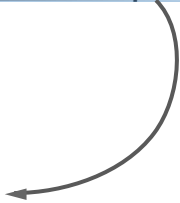
	Sweet	Salty	Savoury
Count	2	1	
Sum	685	240	



Streaming

Salty	2019-09-24	205
Savoury	2019-09-24	407

	Sweet	Salty	Savoury
Count	2	1	
Sum	685	240	

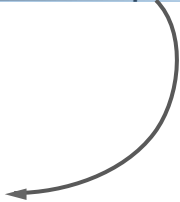




Streaming

Salty	2019-09-24	205
Savoury	2019-09-24	407

	Sweet	Salty	Savoury
Count	2	2	1
Sum	685	445	407



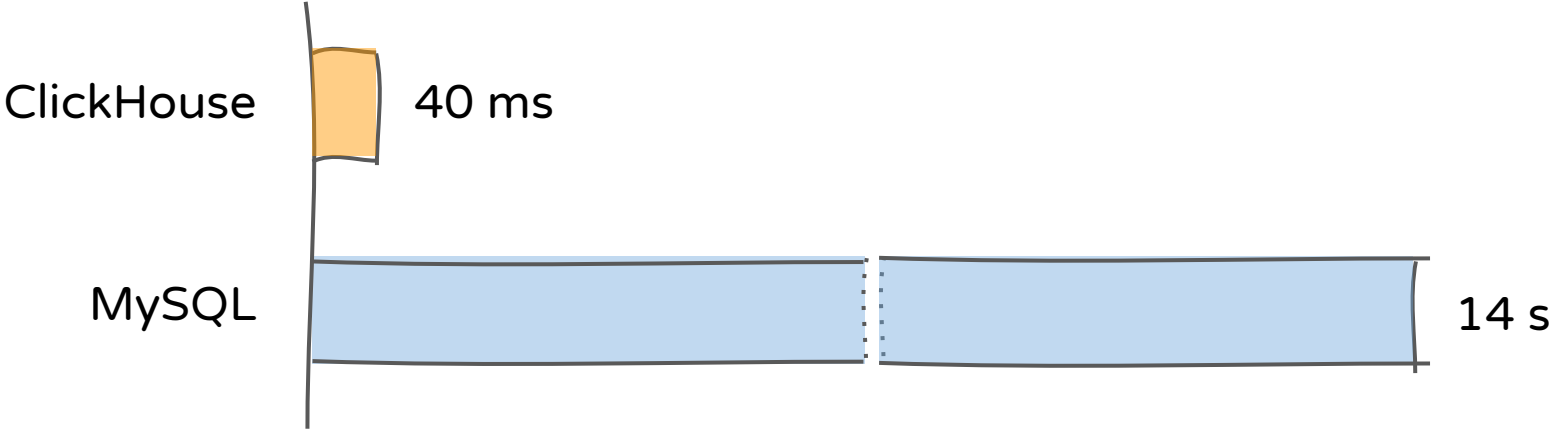


Modern analytical DBs

- Column store
- Sharding
- Pre-aggregation
- ...



Modern analytical DBs



On a dataset of 25M rows



Cumul.io

We're going to help you out as well:



Phase 1:

Accelerate local file upload & API push



Phase 2:

Accelerate your Database & Plugin queries



One more thing

We're going to help you out as well:



Phase 1:

Accelerate local file upload & API push



Phase 2:

Accelerate your Database & Plugin queries



Thanks!

From Unsplash



Cumul.io



JOHAN VOSLOO

CEO

COMMSPACE

How we do client-facing analytics

commspace



Revenue Tracking & Analytics

Simple. Easy. Accurate.

HOW WE DO CLIENT-FACING ANALYTICS

And why it should matter to you



Cumulio Event
Leuven, Belgium 2019



Presented by
Johan Vosloo
Founder & CEO
Commspace

← THAT'S US!

THE SECRET TO COMMSPACE'S SUCCESS:

A PASSION FOR PROBLEM SOLVING

+

LOVING MAKING A DIFFERENCE IN
PEOPLE'S LIVES

+

THE BEST TEAM

+

FOCUS & DETERMINATION


YEAH BABY!

commspace

This is us 

(Yes, that's an actual paper napkin)



Simplifying your revenue.
Uncomplicating your life.

Easy to understand business intelligence.
Creating BI you can actually use.

This is a core
value proposition
we wanted to
offer

Automating structure and order for your revenue tracking.
Less onerous and error-prone. The ease & accuracy you've been looking for.

Only the features you need.
Everything on our platform adds value.

Saving you time with software you will actually use.
Giving you space to do the important stuff.

Why client-facing visual analytics?

“Visualization gives you
answers to questions you
didn’t know you had”

Ben Schneiderman



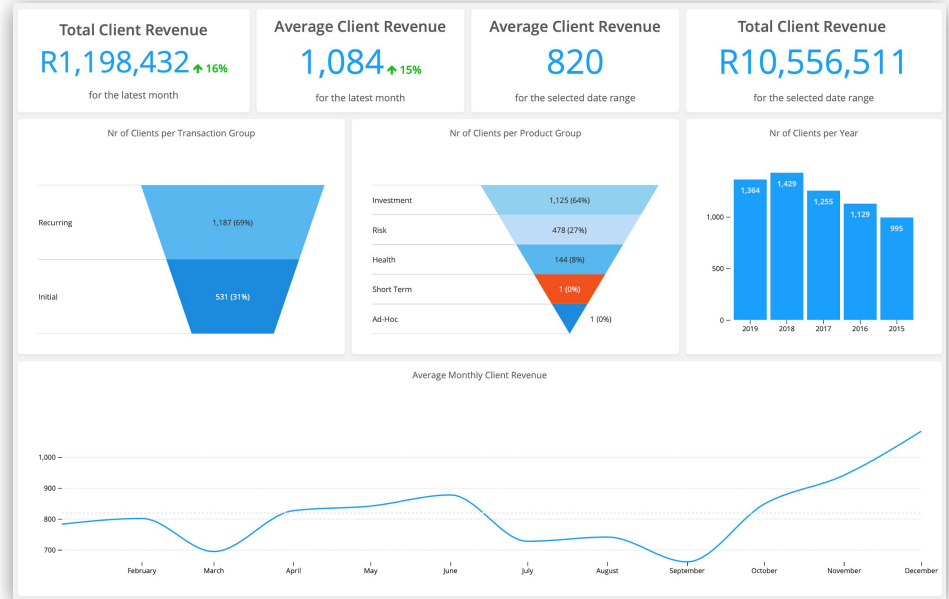
As a small business owner

What would you rather look at?



Product Category	%	Production Ex VAT	Production VAT	Production Inc VAT	%
Whole Life	1.99%	99,367.17	14,905.07	114,272.24	1.99%
Investment	1.40%	69,674.29	10,451.15	80,125.44	1.40%
Whole Life	1.09%	54,338.46	8,150.80	62,489.26	1.09%
Life Cover	1.04%	51,772.50	7,765.88	59,538.38	1.04%
Whole Life	1.00%	49,728.19	7,459.23	57,187.42	1.00%
Whole Life	0.92%	45,779.23	6,866.89	52,646.12	0.92%
Investment	0.83%	41,555.63	6,233.36	47,788.99	0.83%
Investment	0.82%	41,109.40	6,166.41	47,275.81	0.82%
Whole Life	0.75%	37,709.10	5,279.27	42,988.37	0.75%
Life Cover	0.73%	36,291.60	5,443.74	41,735.34	0.73%
Retirement	0.70%	34,748.91	5,212.33	39,961.24	0.70%
Whole Life	0.69%	34,532.34	5,179.85	39,712.19	0.69%
Investment	0.65%	32,201.24	4,830.19	37,031.43	0.65%
Whole Life	0.62%	31,070.13	4,660.52	35,730.65	0.62%
Investment	0.62%	31,039.19	4,655.89	35,695.08	0.62%
Investment	0.62%	30,908.29	4,636.24	35,544.53	0.62%
Investment	0.62%	30,768.32	4,615.25	35,383.57	0.62%
Living Annuity	0.61%	30,294.11	4,544.12	34,838.23	0.61%
Whole Life	0.56%	27,911.62	4,186.74	32,098.36	0.56%
Whole Life	0.55%	27,651.44	4,147.72	31,799.16	0.55%
Investment	0.53%	26,690.88	4,003.64	30,694.52	0.53%
Investment	0.52%	26,017.30	3,902.59	29,919.89	0.52%
Investment	0.52%	25,953.23	3,892.98	29,846.21	0.52%
Investment	0.51%	25,678.17	3,851.71	29,529.88	0.51%
Whole Life	0.51%	25,559.20	3,833.87	29,393.07	0.51%
Whole Life	0.48%	23,970.00	3,595.50	27,565.50	0.48%
Investment	0.47%	23,565.19	3,534.77	27,099.96	0.47%
Endowment	0.47%	23,436.44	3,515.46	26,951.90	0.47%
Investment	0.47%	23,262.36	3,489.35	26,751.71	0.47%
Investment	0.46%	23,015.92	3,452.41	26,468.33	0.46%

We had this (meh)



We wanted this (🤩)

So many visual analytics options 🤯

We looked at over 30(!)
over an 18 month period



Selection criteria for Commspace Analytics

“Finding the balance between power & simplicity”



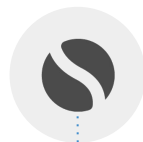
EMBEDDED GUIDED ANALYTICS

- ✓ Secure embedding
- ✓ Authenticated accounts



EASY & NIMBLE DASHBOARDING

- ✓ Analysts, not developers
- ✓ Drag-and-drop over SQL



PERFORMANT & SCALABLE

- ✓ Near-real time
- ✓ Fast rendering



VISUALLY ATTRACTIVE


- ✓ Rich visualisation options
- ✓ Customisable & styleable

We decided to *buy* instead of *build*.

Spending engineering time on core product development is more important


Cumulio checked all the boxes

 And **excelled** at these:

- Fantastic dashboard building experience
- Easy yet robust integration
- Elegant authorisation mechanism
- Responsive technical support (hi Haroen! )




Cumulio sits in the “Goldilocks Zone”
Perfect balance between power & simplicity for embedded analytics

A photograph of Brad Pitt in a crowd, shirtless and smoking a cigarette. He is surrounded by other people, some of whom are also shirtless. The scene is dimly lit, suggesting a nightclub or a party.

With vendor selection completed, it was time to get down and dirty with “The Implementation” 🍷

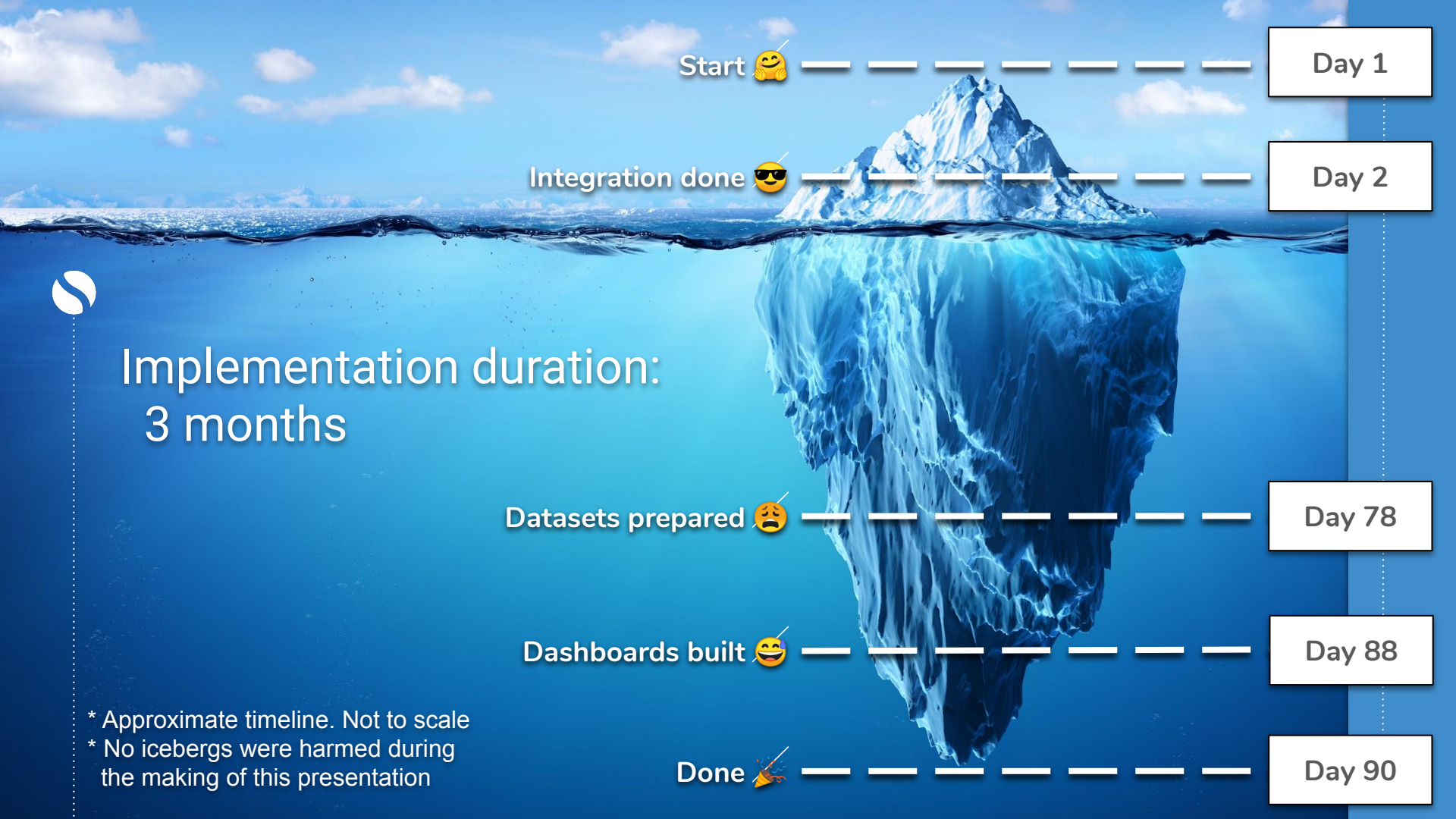
*Not actual Commspace developers

Challenges & Decisions



Challenge/Decision	Solution
Creating performant datasets from normalised data	Postgres materialised views
Deciding what to visualize and which graphs to group together	Multiple dashboards aka “views”
Controlling which dashboards are exposed in Commspace	Cumulio “API User”
Handling multi-tenant SaaS	Cumulio API token filter

**The real challenges all had to do with data prep and dashboard design
The actual Cumulio integration was a breeze**



Start 🧐

Day 1

Integration done 😎

Day 2

Datasets prepared 😞

Day 78

Dashboards built 😁

Day 88

Done 🎉

Day 90



Implementation duration:
3 months

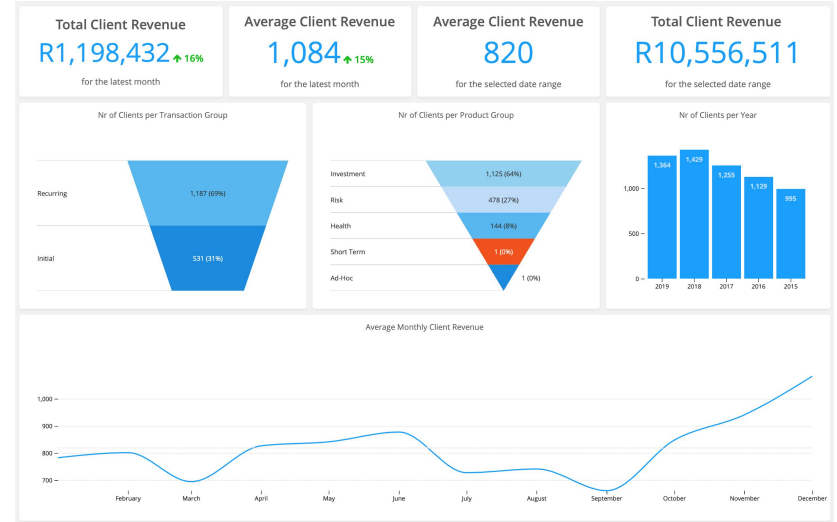
- * Approximate timeline. Not to scale
- * No icebergs were harmed during the making of this presentation

The Result:

Commspace Analytics

“This is not what I wanted, it is *more* than what I wanted! Thank you very much, this is so rich and so brilliant!”

These are actual client quotes!



“Wow, this information is incredible. I have never seen my business in such detail!”

With the introduction of *revenue analytics*, we can offer our clients an unprecedented view on their business revenue

Now you be like... or hopefully like



The End

commspace

commspace.co.za



PETER STAVELOZ

CEO

IREACHM

Monitoring voice bots with real-time dashboards



9 Amazing Trends in **Voice Chatbot** to watch in 2019



WE
BUILD VOICE & CHAT *
FOR SALES & CUSTOMER SERVICE TEAMS
BOTS

* Human & Digital Solutions



Hello, I'm Nikki!

How can I help you?







Hét evenement voor de verpakkingindustrie!
Woensdag 23/10/2019
Nekkerhal – Brussels North

Google vergeet te melden dat Nest beveiligingssysteem ingebouwde microfoon heeft

21/02/19 om 11:58 Bijgewerkt op 22/02/19 om 10:16 Bron : DataNews



Pieterjan Van Leemputten

is redacteur bij Data News

Google's Nest Secure beveiligingssysteem blijkt dan toch een ingebouwde microfoon te hebben, ook al stond die aanvankelijk niet vermeld in de specificaties.

3
Keer gedeeld



„ 'Gratis vertaal-apps kunnen erg duur uitdraaien'
- **Vrije Tribune**



Meest gelezen



Truc van programmeur om verkeersboetes te ontlopen pakt verkeerd uit



Rinnenkort mogelijk om



Bancontact betalingen binnen een paar klikken in je website

Begin vandaag op www.mollie.be

Transacties



€24,00

BETAALD

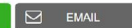
INTERNATIONAAL

Google is reabsorbing Nest, the smart home company it bought for \$3.2 billion in 2014



Steve Kovach

🕒 07 Feb 2018 👁 220



- Nest, the company that makes smart appliances like connected thermostats, is being folded back into Google. It will be overseen by Google hardware boss Rick Osterloh.
- Nest has been a separate company under the Alphabet umbrella since 2015, considered an “Other Bet” by the company.
- This is the first time one of Alphabet’s so-called Other Bets companies has been folded back



Foto: REUTERS/Beck Diefenbach Rick Osterloh, Google's hardware boss, will now run Nest.

INDUSTRIËLE COMPUTERS
Oplossingen op maat

Microtron **KLIK HIER**

Partnerexperts



Talent werven over de grens: 'In Spanje zijn ze blij als ze iets horen, zelfs als het een afwijzing is'

Bekijk de hele serie: de zoektocht naar talent



nest number of customers



Alle Nieuws Afbeeldingen Shopping Video's Meer Instellingen Tools

Ongeveer 46.800.000 resultaten (0,64 seconden)

Nest has sold over 11 million smart home devices since the company got its start in 2011, according to CEO Marwan Fawaz. 7 feb. 2018

[Nest says it has sold over 11 million devices since 2011 - CNET](#)

<https://www.cnet.com/.../nest-says-it-has-sold-over-11-million-devices-since-...>

Over dit resultaat Feedback

Mensen vragen ook

How do I contact nest customer services? ▾

How many employees does Nest have? ▾

What is NEST policy number? ▾

Can I claim back my nest pension? ▾

Feedback

[Nest says it has sold over 11 million devices since 2011 - CNET](#)

<https://www.cnet.com/.../nest-says-it-has-sold-over-11-...> ▾ Vertaal deze pagina

7 feb. 2018 - **Nest** has sold over 11 million smart home devices since the company got its start in 2011, according to CEO Marwan Fawaz.

[Get in touch with NEST | NEST Pensions](#)

<https://www.nestpensions.org.uk/.../nest/.../get-in-touch-...> ▾ Vertaal deze pagina

Rekenmachine

Standaard

290,9090909090909

MC

MR

M+

M-

MS

M*

3200 ÷ 11 =

290,9090909090909

Typ hier om te zoeken



17:01
21/08/2019



x
VOLVO WITH
GOOGLE
INTEGRATION
AT GOOGLE
I/O 2018



DIGITAL TRENDS



Google

Google zoeken

Ik doe een gok





Colruyt test als eerste Belgische supermarkt ingesproken boodschappenlijstjes

vrijdag 08 februari, 2019



Colruyt Laagste Prijzen start als eerste Belgische supermarkt met een test van ingesproken boodschappenlijstjes. Vanaf vandaag kunnen klanten zich daarvoor inschrijven. Tijdens de test dicteren ze hun lijstje tegen hun smartphone, waarna ze productsuggesties op maat krijgen. *"Samen met onze klanten onderzoeken we of spraaktechnologie een efficiënt hulpmiddel is om boodschappen voor te bereiden"*, zegt marketingdirecteur Guy Elewaut.

Nieuw: Colruyt-boodschappenlijstjes inspreken

Colruyt Laagste Prijzen test als eerste Belgische supermarkt ingesproken boodschappenlijstjes. Dat doet de retailer samen met zijn klanten. *"De test moet uitwijzen of onze klanten op deze manier nog makkelijker hun boodschappen kunnen voorbereiden"*, zegt Guy Elewaut.



[Privé](#)

[Business](#)

[Grote bedrijven](#)

[Proximus Groep](#)

[Contact](#)

 PROX +0,70% NL 

proximus | group

[Ons bedrijf](#)

[Duurzaamheid](#)

[Investeerdere](#)

[Pers](#)

[Jobs](#)

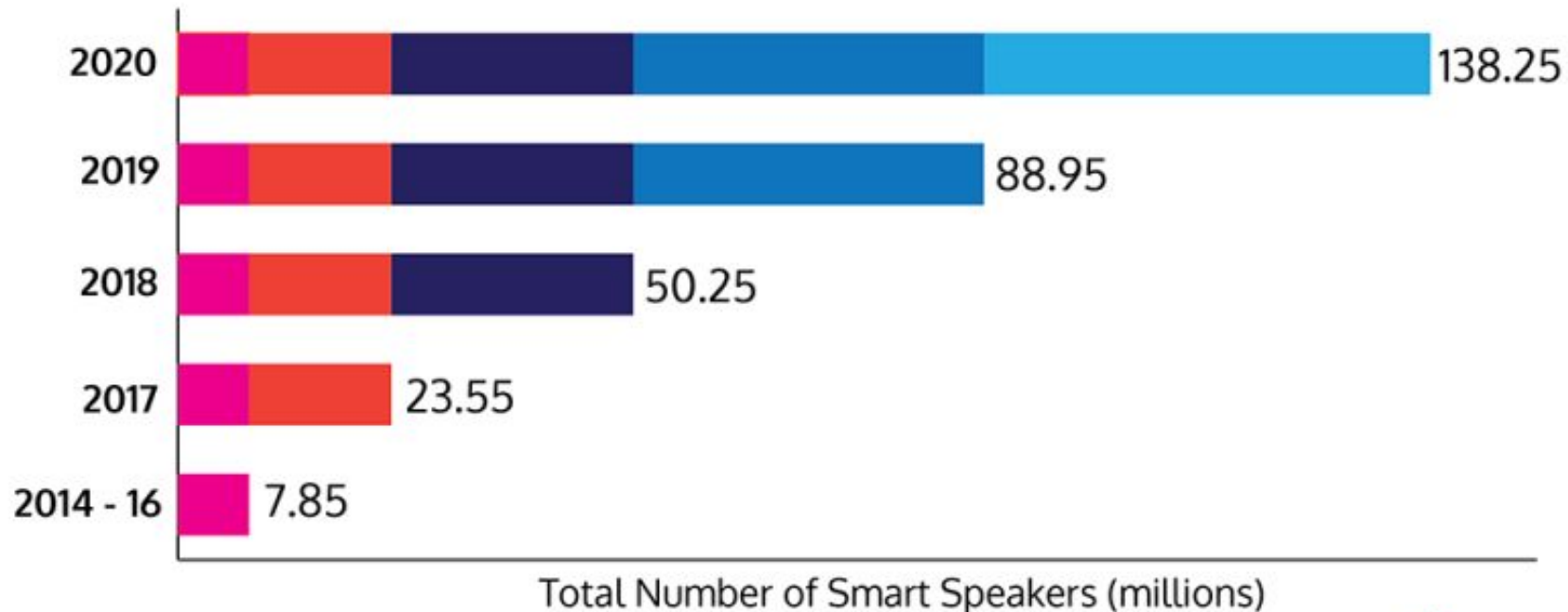


[Home](#) > [Pers](#) > Met MyProximus praten dankzij Google Assistant

28 mei 2019 | Persberichten

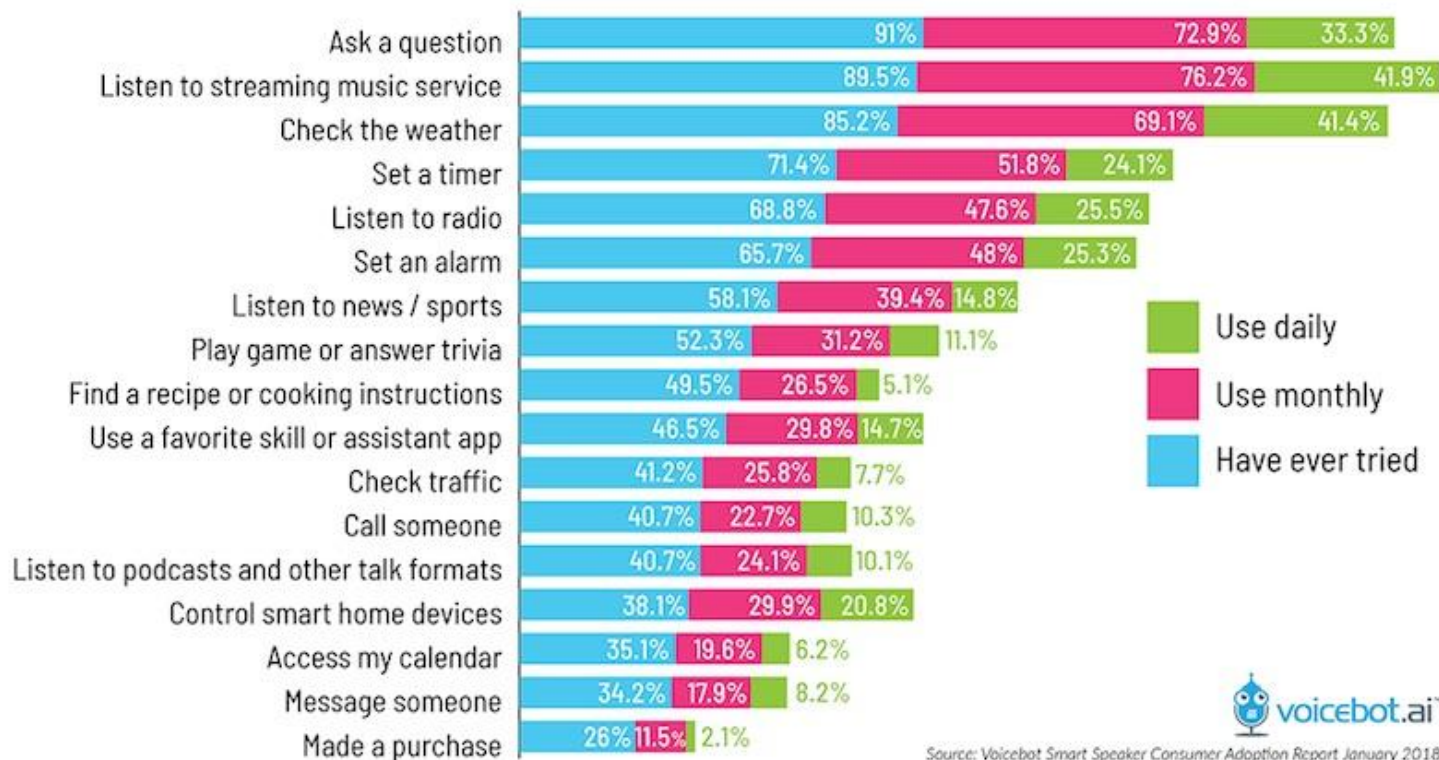
Met MyProximus praten dankzij Google Assistant

US Smart Speaker Installed Base - 2016 to 2020



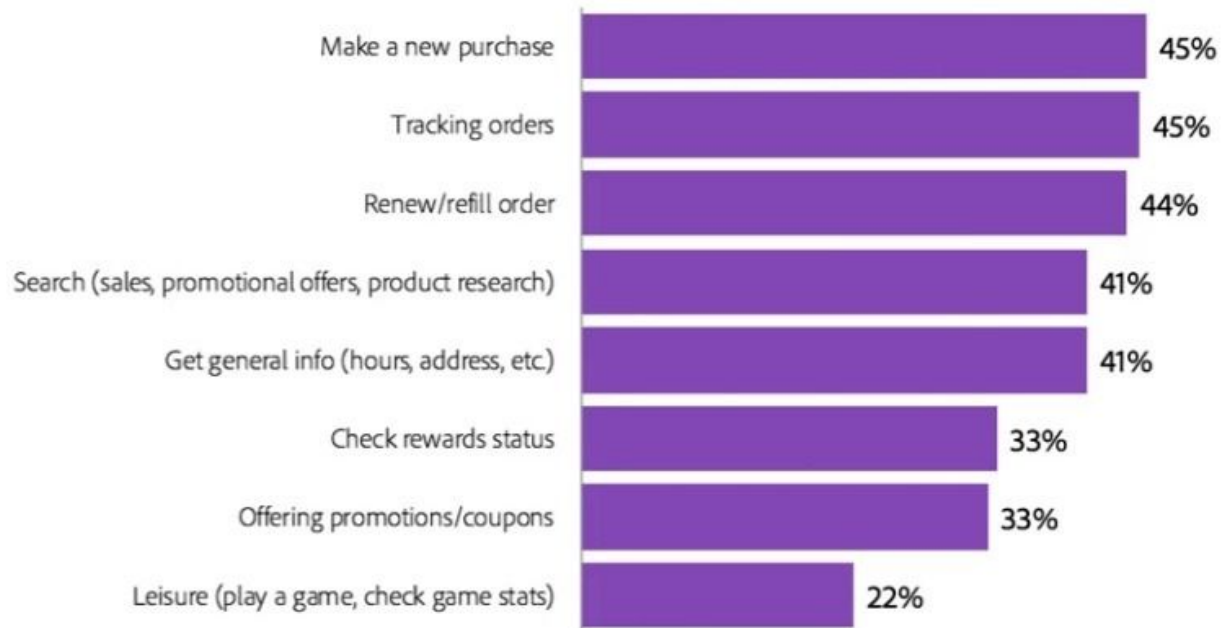
Source: CIRP, VoiceLabs, Statista, Edison Research, Voicebot.ai

Smart Speaker Use Case Frequency January 2018



Source: Voicebot Smart Speaker Consumer Adoption Report January 2018

What new voice-enabled interactions are organizations prioritizing. (US, Mar 2019)



Newsroom

Press Releases

TOKYO, Japan, February 19, 2018

Gartner Says 25 Percent of Customer Service Operations Will Use Virtual Customer Assistants by 2020

Contacts

Susan Moore
Gartner
susan.moore@gartner.com



INTERNATIONAAL

McDonald's bought an AI speech company to take the human interaction out of drive-thrus



Isobel Asher Hamilton

🕒 11 Sep 2019 📄 10



- **McDonald's announced the acquisition of AI startup Apprente for an undisclosed sum on Tuesday.**
- **Apprente builds AI designed to understand and respond to human speech, which McDonald's said it plans to implement at its drive-thrus.**
- **Earlier in 2019 the fast food giant bought a separate AI company for \$300 million to help tailor its touchscreen menu offerings to customers.**



Foto: AP Photo/Seth Periman McDonald's Drive Thru service could soon become much more automated.

Eindeloze data voor deze apps

📺

📷

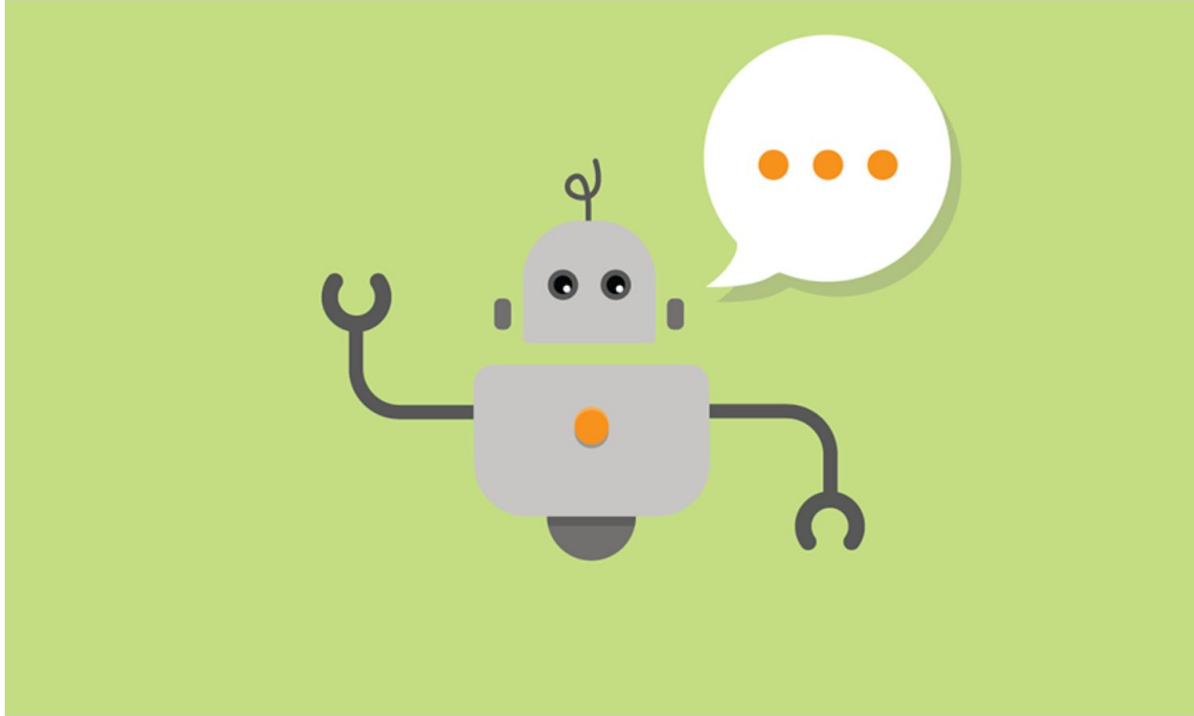
en meer ...

“DATA ANALYTICS” CASE STUDIES

Voice & chat bot analytics with real-time dashboards

15 Key Metrics for Chatbot Conversational Analytics in 2019

SEPTEMBER 11, 2019 · 7 MINUTE READ



File Home Insert Draw Page Layout Formulas Data Review View Developer Help Search

Clipboard Font Alignment Number Styles Cells Editing Ideas

C7 Average number of chatbot interactions per session.

	A	B	C	D	E
1	Key Performance Indicator	Description	Interpretation of the KPI	Advice	Actions to improve
2	#chatbot active visitors / #total website visitors	% of unique visitors on a website who read the welcome message in the chatbot window.	% shows the number of unique visitors who are prompted with a chatbot conversation starter message when they visit the website. TOO HIGH: too aggressive chatbot push with undefined "push/popup" criteria TOO LOW: missed opportunities due too a low number of pushed welcome messages		
3	#chatbot engaged visitors / #chatbot active visitors	% of unique visitors on a website who read the welcome message and interacted (typed and send text) at least 1 time with a chatbot window.	% of users who communicate with the chatbot after seeing a conversation starter message. TOO HIGH: conversation starter message might be "too good to be true" TOO LOW: conversation starter message might need to be revised in order to attract more engagement		
4	#chatbot engaged users / #website visitors	% of unique visitors on a website who interacted (typed and send text) at least 1 time with a chatbot window.	% of users who communicate with the chatbot after visiting the website TOO HIGH: conversation starter message might be "too good to be true" TOO LOW: conversation starter message might need to be revised in order to attract more engagement		



Search datasets...



DASHBOARD SETS

- calls >
- users - fully expanded >
- pa_call_logs >

MY RECENT SETS

- Subscriptions >
- Contacts >
- Companies >
- Timetracking plus >
- Project history >
- Tasks plus >
- Invoices >
- Projects >
- Deals >
- Milestones >



Personal Assistant Quality Score (PAQS)

Overview of the different KPI's which combined give an average score to each call handled by the PA (excl. Short Calls, Hang ups & Internal Messages)



PAQS Average per month

01-2019

0.31



Select finalDestination...



Select a range...



Call Details (LOWEST PAQScore First)

startDateT...	phoneA	phoneB	Company ...	Email fill (1...	Firstname ...	Lastname ...	Terugbelm...	No Messag...	callDurati...	Short Call (...	PAQS
23-09-2019, 1...	+	+3223071200	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
23-09-2019, 1...	+	+3223310555	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
23-09-2019, 1...		+3223635545	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
23-09-2019, 1...		+32473990915	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
23-09-2019, 1...		+32495543265	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
23-09-2019, 1...		+3223202351	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+32470867995	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+32474267672	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+31614546715	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...	+	+31624624856	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+3223071200	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+32477920400	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+32479269769	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+32496592450	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+3228992050	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+32499914074	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+32474537375	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+32494293575	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00
20-09-2019, 1...		+32477834186	0.00	0.00	0.00	0.00	0.00	0.00	N/A	0.00	0.00

Add Items



Analytics

Users, engagement, retention, demographics, and more!



Bot Specific Metrics

Sentiment Analysis, Conversational Analytics, Slack Teams, Multi-User Sessions

We handle all the unstructured data and processing including images, audio, and more importantly users own words

LET'S TALK

WHAT ARE YOUR MOST TIME CONSUMING TASKS?
ABOUT YOU



JELKE SOOGHEN

MANAGER POLICY &
INFORMATION MANAGEMENT

CITY OF ANTWERP

Our organisation in numbers





Organisation in numbers



ATYPICAL

ANTWERP

Municipality of Antwerp



7282
employees

> 527.461
inhabitants

> 670
buildings

Diversity in
strategic goals and
processes

> 2.500
vehicles

Diverse customer
contacts

...

Data team = a multidisciplinary team



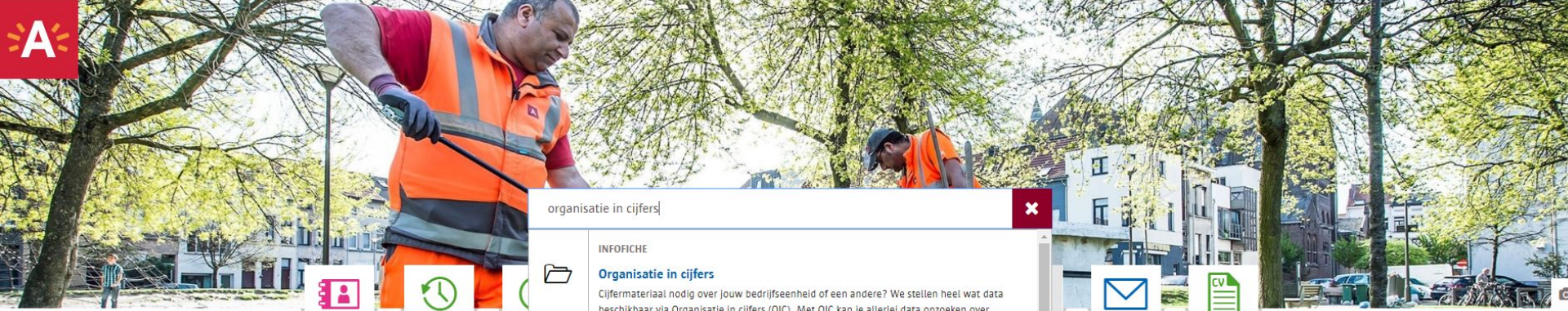
Mission



Change Management



Easy access to data as critical precondition



Contactboek



xTremis



Mijn

organisatie in cijfers

INFOFICHE

Organisatie in cijfers

Cijfermateriaal nodig over jouw bedrijfseenheid of een andere? We stellen heel wat data beschikbaar via Organisatie in cijfers (OIC). Met OIC kan je allerlei data opzoeken over specifieke thema's die leven binnen onze organisatie. Dashboards ...

Stadsmedewerker

NIEUWS

Nieuw in Organisatie in cijfers: dashboard financiën

In het nieuwe dashboard financiën vind je een overzicht van de realisatiegraad van het budget en van de inkomende facturen. Lees er meer over in dit artikel. Budget: realisaties Per budgettype (exploitatie, investeringen) tonen de grafieken hoeveel budget werd ...

Stadsmedewerker

INTERNE LINKS

Stad in cijfers



Webmail



Vacatures



Nieuws



Opvolging evacuatie-oefening Den Bell zone 60

Vandaag, 10.45 uur



GPD Medisch Toezicht verhuisd door geluidshinder in Toren Den Bell



Financiën onbereikbaar op 12/09 vanaf 12 uur

Vandaag, 7 uur



Instrument
for
lower management
&
supervisors

How does it work?



Group: City of Antwerp



Landing page
organisation in numbers



Homepage organisation in
numbers



Status
Theme
Personalisation



M-profile

Live demo landing page



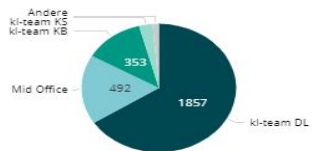
Organisatie in cijfers

Overzicht > Klantencontacten

Klantencontacten

OD - Onafhankelijke diensten

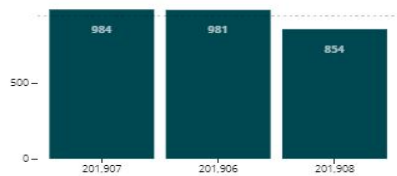
Klantenteams:



Onderwerpen laatste 3 maand



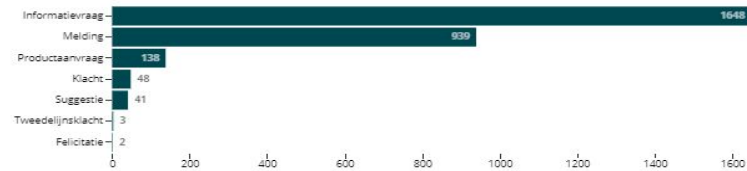
Evolutie # klantencontacten



Meldingskanalen



Klantencontacten per type



Live demo home page

Dashboards > Releases

Dashboard

Status

Online



Preview dashboard

Algemeen

Thema

Personalisatie

Landingspagina

Wijzigingshistoriek



Opslaan



Verwijderen

Algemeen

Titel Releases

GUID db815323-8e70-401e-aff3-147219207932



Auteur Marijn Smets

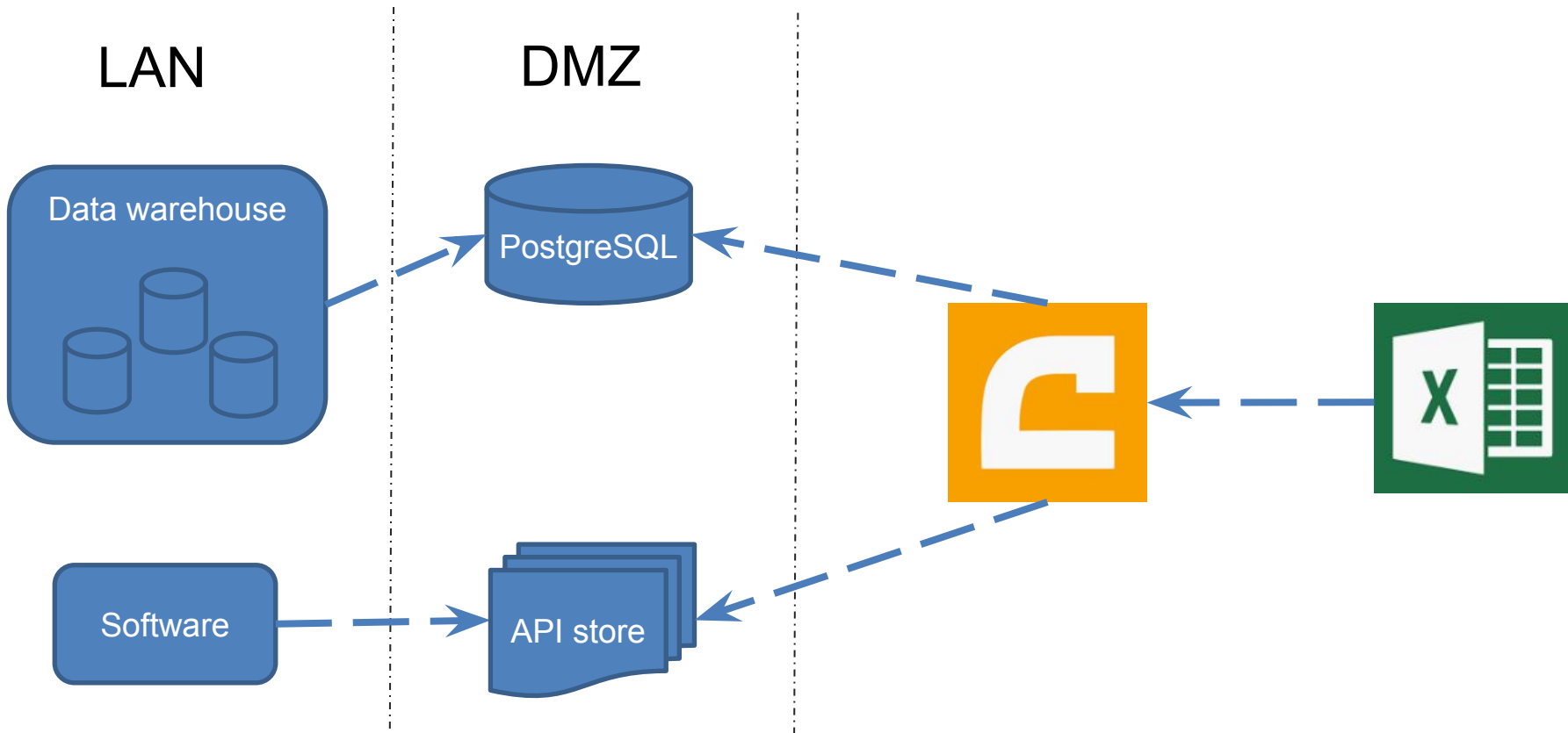
Beschrijving

Tags

Email

SC@antwerpen.be

How do we get our data?





Questions?



**BRUNO
VERBRUGGEN**

HEAD OF SALES

CUMUL.IO

Building data driven organizations.

How Cumul.io supports companies to include reporting and analytics in the place that actually matters.

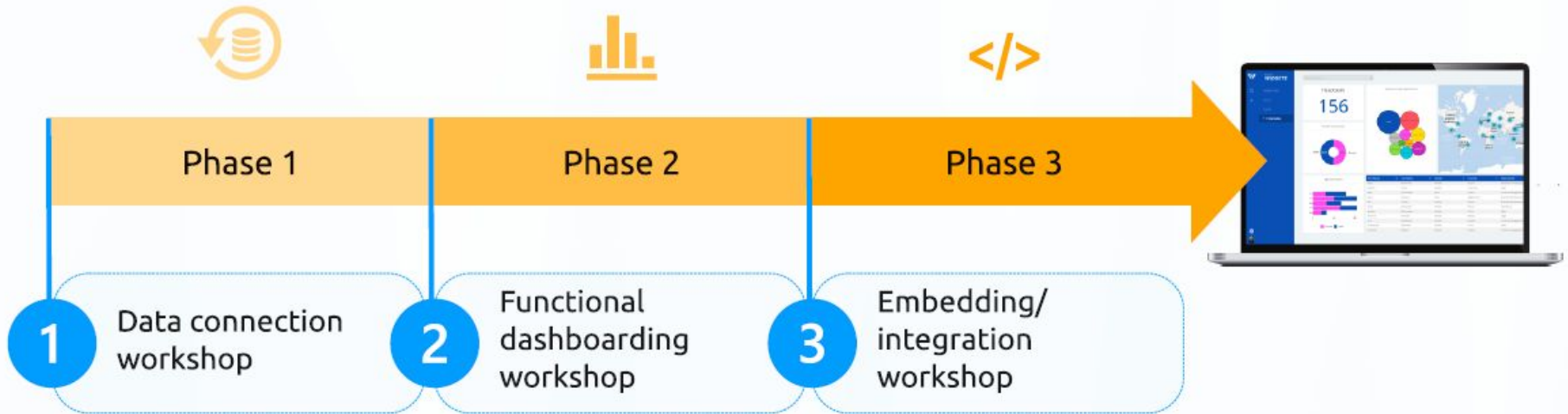
A Supporting Team

- Customer Success
- Functional documentation
- Account Management
- Solution Engineering
- Technical support
- Developer Documentation







Joint Execution Program

- 6-8 weeks pilot project
- Dedicated Solution Engineer
- Monthly 'developer' license
- Deductible from license fee



New Subscriptions

- All subscriptions come with full integration
- Previous subscriptions stay valid

	 STARTUP € 225/month	 BASIC € 795/month	 PROFESSIONAL € 1255/month	 ENTERPRISE Contact us
Usage				
Included sessions per year [?]	10.000	25.000	50.000	On request
Additional sessions [?]	Prepaid or postpaid	Prepaid or postpaid	Prepaid or postpaid	On request
Included designer accounts [?]	1	2	5	On request
Number of dashboards	Unlimited [?]	Unlimited [?]	Unlimited [?]	Unlimited [?]



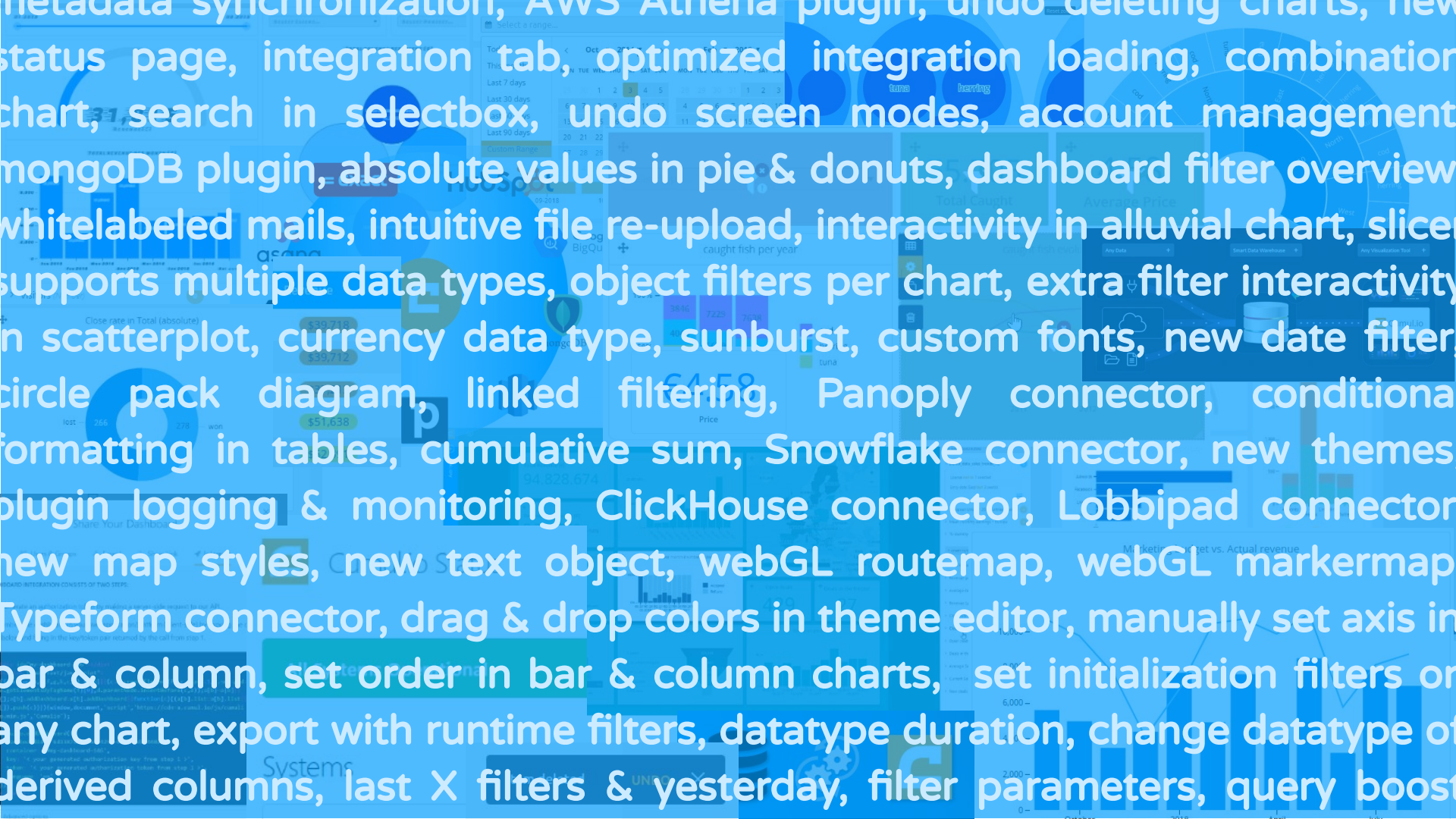
KAREL CALLENS

CEO & FOUNDER

CUMUL.IO

Product Update

Best of breed building block, 1st in class & fastest integration, Secure, Multitenant, Parameterizable, Responsive, Multi-lingual, API first, Easiest to use, Analytical power, #FeatureFRIYAY, Monthly webinars, +100 articles, filters with parameters, impersonate, integrated dashboard usage overview, dashboard picker integration, integration rules



status page, integration tab, optimized integration loading, combination
chart, search in selectbox, undo screen modes, account management
mongoDB plugin, absolute values in pie & donuts, dashboard filter overview
whitelabeled mails, intuitive file re-upload, interactivity in alluvial chart, slices
supports multiple data types, object filters per chart, extra filter interactivity
in scatterplot, currency data type, sunburst, custom fonts, new date filter
circle pack diagram, linked filtering, Panoply connector, conditional
formatting in tables, cumulative sum, Snowflake connector, new themes
plugin logging & monitoring, ClickHouse connector, Lobbipad connector
new map styles, new text object, WebGL routemap, WebGL markermap
Typeform connector, drag & drop colors in theme editor, manually set axis in
bar & column, set order in bar & column charts, set initialization filters on
any chart, export with runtime filters, datatype duration, change datatype of
derived columns, last X filters & yesterday, filter parameters, query boost



409

tested & deployed
releases

Since data talks 2018

Feature

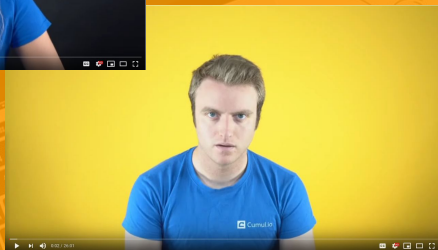
FRIYAY 



Cumul.io

A new webinar
Every month

+100
articles/lessons

The screenshot shows the Cumul.io website homepage. The header is blue with the Cumul.io logo, navigation links for Academy, Getting Started, API Docs, and Log In, and a 'Try for free' button. The main content area is white with a search bar and a 'Hi. What do you want to learn?' heading. Below the search bar are popular categories: Filter, Dataset, Webinar, Link, and Theme. A featured section titled '21 LESSONS Getting Started' includes a thumbnail of a dashboard and a description of the course content, ending with a 'Start course >' link.

Cumul.io Academy Getting Started API Docs Log In Try for free

Hi. What do you want to learn?

Search for courses, questions, lessons...

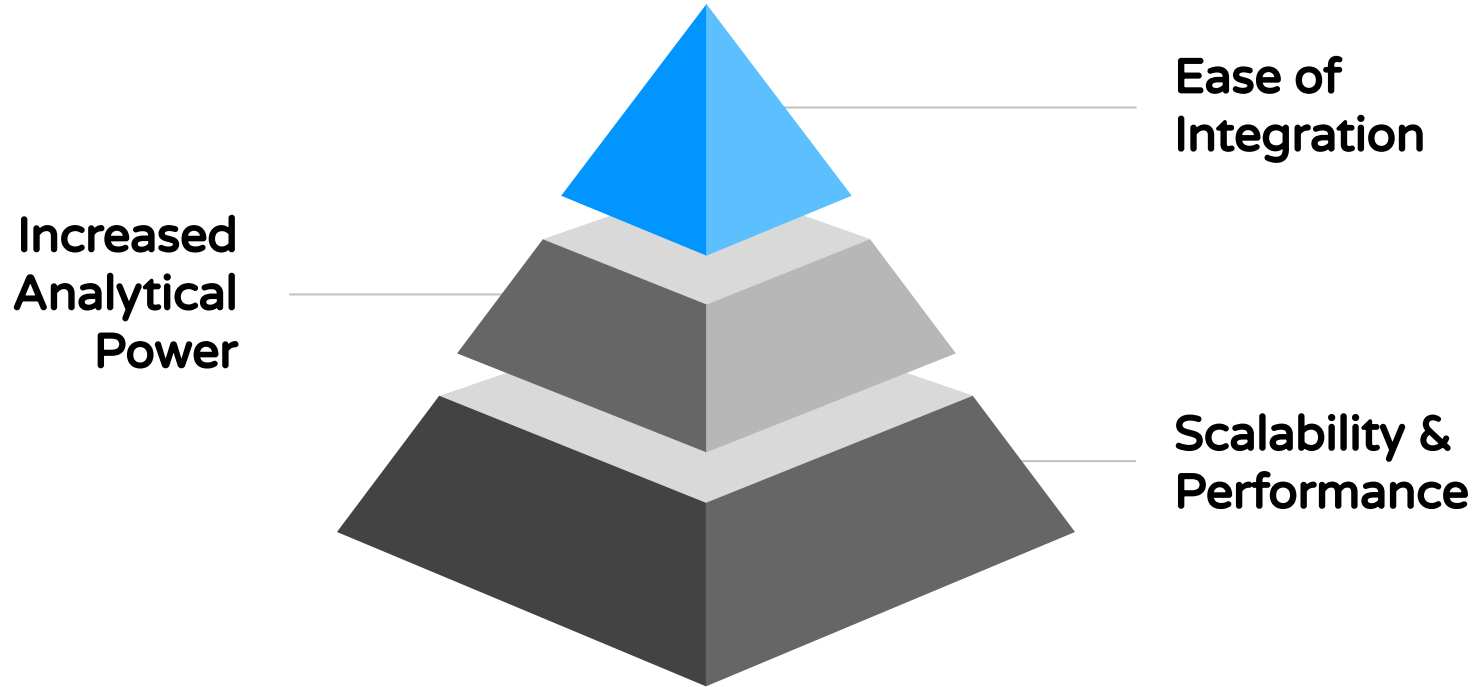
Popular: Filter Dataset Webinar Link Theme

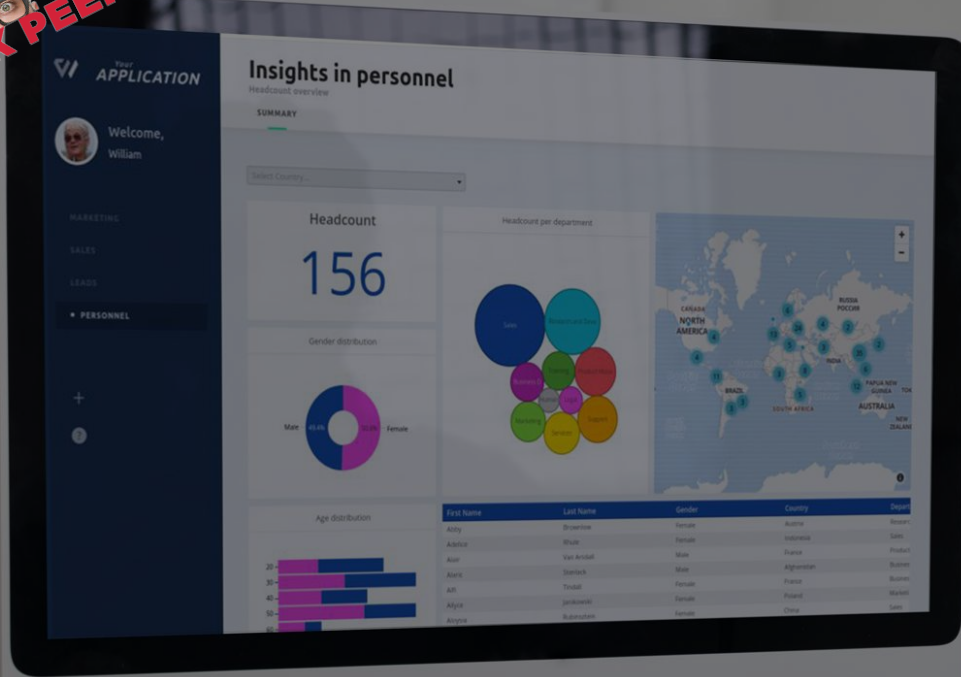
21 LESSONS
Getting Started

Welcome to the Cumul.io Introduction Course! Follow our course, and you will become a master in the art of dashboarding. In this tutorial, we will take you through every step in the process of making a good dashboard: connecting your data, creating good looking charts and sharing the end product. Ready to get started?

[Start course >](#)

3 MAIN FOCUS AREAS





We just made the best integration even **FASTER & BETTER** !



PARAMETERIZABLE FILTERS

The screenshot displays a dashboard with a 'Manage dashboard filters' dialog box in the center. The dialog shows a filter configuration: 'Department' is selected, followed by 'is in' and a value 'department - f₁'. Below the dialog is a 'New filter' button. The background shows a sidebar with a list of countries, a main chart area with a bar chart, and a right-hand panel with filter settings. The bar chart shows data for various departments, with 'Sales' having the highest value at 23. The right-hand panel shows a 'PARAMETERS' section with a 'department' filter set to 'Product Management, Training, Business Development'. Below it are sections for 'DASHBOARD FILTERS' and 'CHART FILTERS'.

- Use parameters in chart & dashboard filters
- Create a default integrated view
- Easy impersonification
- Adapt many filters at once



PARAMETERIZABLE FILTERS

```
client.create('authorization', {
  type: 'temporary',
  securables: [ '< dashboard id >' ],
  expiry: new Date(new Date().getTime() + 300 * 1000),
  name: 'John Doe',
  email: 'john@doe.com',
  filters: [
    {
      clause: 'where',
      origin: 'global',
      column_id: '306f0a58-544e-497a-b2f1-38f2f6fb04a0',
      securable_id: '5437ca60-aa8f-474b-8268-2e48f1f95c70',
      expression: '? IN ?',
      value: ['Support', 'Sales']
    },
    {
      clause: 'where',
      origin: 'global',
      column_id: 'cb2fabb3-51f1-407c-8a01-8f0aeaa077eb',
      securable_id: 'b0d8416d-47fb-48d5-8756-d23a4e807cd3',
      expression: '? IN ?',
      value: ['Support', 'Sales']
    },
    {
      clause: 'where',
      origin: 'global',
      column_id: 'cb2fabb3-51f1-407c-8a01-8f0aeaa077eb',
      securable_id: 'af5744da-c195-452a-9d77-0ecea65420a99',
      expression: '? IN ?',
      value: ['Belgium']
    },
    {
      clause: 'where',
      origin: 'global',
      column_id: '306f0a58-544e-497a-b2f1-38f2f6fb04a0',
      securable_id: '75e796a9-d350-47cd-bc4b-e9de9e036488',
      expression: '? IN ?',
      value: ['Belgium']
    }
  ]
});
```



```
client.create('authorization', {
  type: 'temporary',
  securables: [ '< dashboard id >' ],
  expiry: new Date(new Date().getTime() + 300 * 1000),
  name: 'John Doe',
  email: 'john@doe.com',
  metadata: {
    department: [ 'Sales', 'Support' ],
    country: [ 'Belgium' ]
  }
});
```



PARAMETERIZABLE FILTERS

```
client.create('authorization', {
  type: 'temporary',
  securables: [ '< dashboard id >' ],
  expiry: new Date(new Date().getTime() + 300 * 1000),
  name: 'John Doe',
  email: 'john@doe.com',
  metadata: {
    department: [ 'Sales', 'Support' ],
    country: [ 'Belgium' ]
  }
});
```



- No need dataset & column ids in filters
- Just add the parameter in the metadata
- Reuse in other dashboards
- And as always secured



EASE OF INTEGRATION HOW FAST?

From data to dashboard

Securely integrated

Multi tenant

EASE OF INTEGRATION

Upcoming & planned



VIEW ON
INTEGRATION USAGE
& BY WHOM



VERSIONED &
SWAPPABLE
DASHBOARDS



DASHBOARD
RULES & ROUTES



INTEGRATE A
DASHBOARD
PICKER



KAREL CALLENS

CEO & FOUNDER

WHERE ARE WE

CUMUL.IO IN 2019

+12000 dashboards. +23500 datasets. +470 plugins running. Team has grown to 15. Presence in 25 countries. In the G2 quadrant for Embedded BI. Strengthened the integrated analytics offering. Launched the Cumul.io Academy. Unveiled developer.cumul.io. Rolling release 15xx+ . Faster & better integration. Subsidiary in NYC. The building block for dashboards - period. Excited for the future!

WHERE ARE WE

FUN FACTS



+12000

DASHBOARDS

Responsive, Multilingual,
Multitenant, Public,
Secure and/or Themed



+200

CLIENTS

SMB, Enterprise,
Government, SaaS,
Product & Service



25

COUNTRIES

BE, NL, US, IT, FR, DE, UK,
BR, AU, DK, SE, ES, NO,
HK, AT, UAE, NZ, SA, TR,
UKR, KSA, KEN, EE, SG, BG

A SHORT RECAP

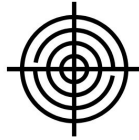
CUMUL.IO THROUGH TIME

Connect. Create. Integrate!



Q4 2015

FOUNDED



2017

**INTEGRATION
OFFERING**

Launch of the ability to
add dashboard to any
platform



2018

**LEARN &
GROW**

Feedback loop on
integration, grew team,
improved platform, 3x
customers



2019

**BETTER, FASTER
& STRONGER**

The BEST building block
for adding dashboards
to your platform



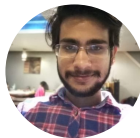
**Today
Q4 2019**

Excited for the future!

Meet Our Awesome Team



MIEKE HOUBRECHTS
MARKETING



SHUBHAM SHRIVASTAV
FULL STACK



YANNICK CRABBE
FRONTEND



NATALIIA DEINEHA
OUTBOUND SALES



HELA KACEM
INBOUND SALES



BRECHT DE ROOMS
FULL STACK



LAURA GEUENS
CUSTOMER SUCCESS



JONAS BARY
CUSTOMER SUCCESS



CARMEN VANDELOO
SOLUTIONS ENGINEER



KRIJN LUIJENDIJK
DEVOPS & SE



TOON LAMBRECHT
BUSINESS DEVELOPMENT
NYC



BRUNO VERBRUGGEN
HEAD OF SALES




THOMAS DE CLERCK
CCO & FOUNDER



HAROEN VERMEYLEN
CTO & FOUNDER



KAREL CALLENS
CEO & FOUNDER



MISSION

Bring data driven decision
making to all, with an extremely
short time-to-insight

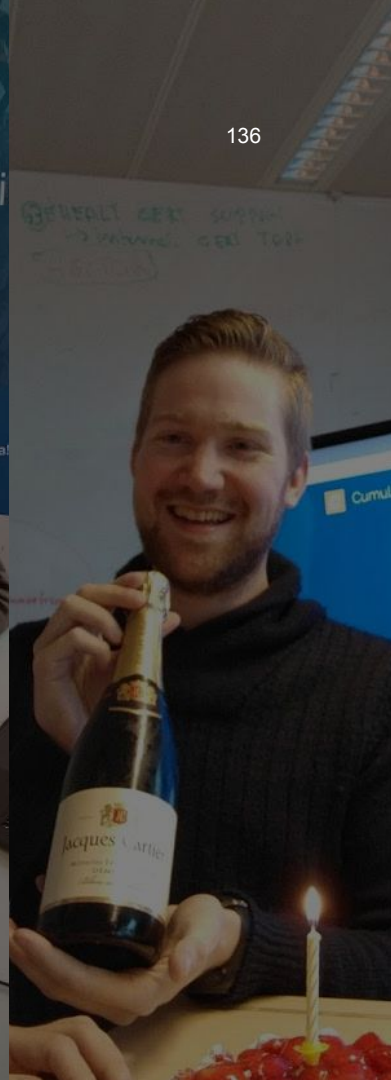
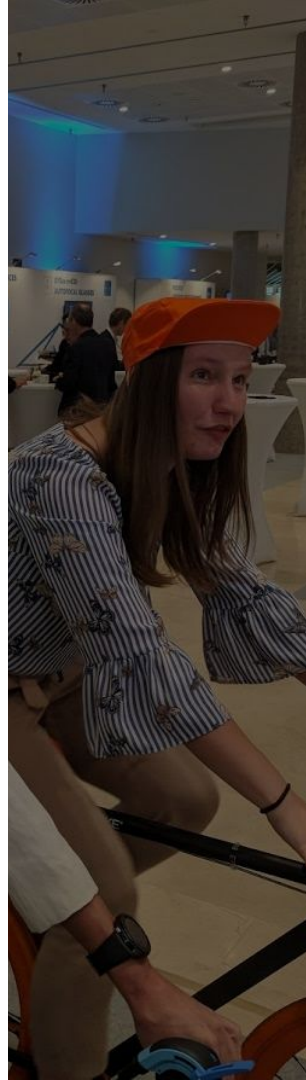


JOIN OUR TEAM



BACKEND ENGINEER

A jack of all trades combining good programming skills, DB expertise, and an analytical mindset.





JOIN OUR TEAM



SALES EXECUTIVE

Always sharp & with an
internal compass set on the
creation of opportunities

