

Designing a scalable Azure data platform

IWA World Water Congress 2022

Maarten Herthoge



delaware



62%

got measurable results

27%

is successful

17%

reaches production



it's easy to understand why so many projects fail

Storm **Data Catalog** **No-SQL** **Databricks**
Hadoop **Power BI** **IoT** **PaaS vs IaaS**
Deep Learning **Machine Learning** **Streaming**
Predictive **Data Mart** **ETL vs ELT** **SMP vs MPP**
Data Visualisation **Data Warehouse** **Prescriptive**
Data Lake **Master Data**
Big Data **Data Factory** **Cloud vs On-prem**
Data Quality **Velocity, Variety and Volume**
Semantic Layer **Spark** **AI**



start with the **problem**,
not with the technology



customer case
water-link

Zeker
van
water

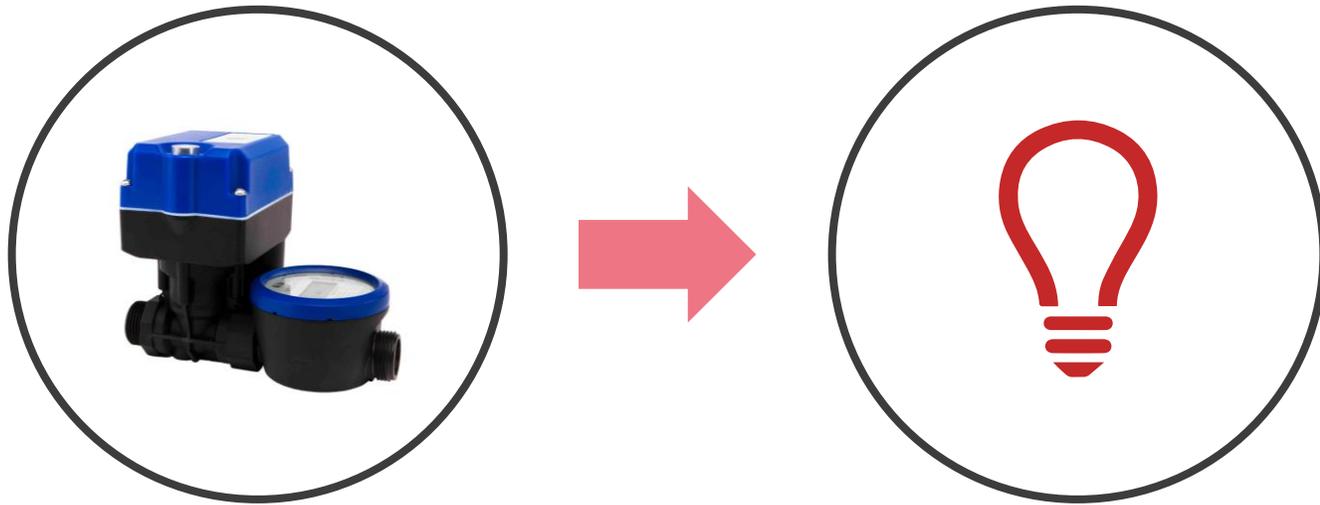




digital meter data as a strategic pillar



digital meter data as a strategic pillar



Increase customer satisfaction
Improve operational efficiency
Provide transparency

digital meter data as a strategic pillar



Autonomous actions based on alerts

Reduce non-revenue water

Protect drink water quality

Control tower analogy:



communicates
between airplanes



orchestrates
ground processes



validate flight plans
and gives clearance

the airport



monitors changing
weather conditions



tracks airplane
movements in real-time



schedules arrivals
and departures



Control tower analogy:



brokers information
between applications
in real-time



orchestrates
data movements



validates incoming data
(quality checks)

the data platform



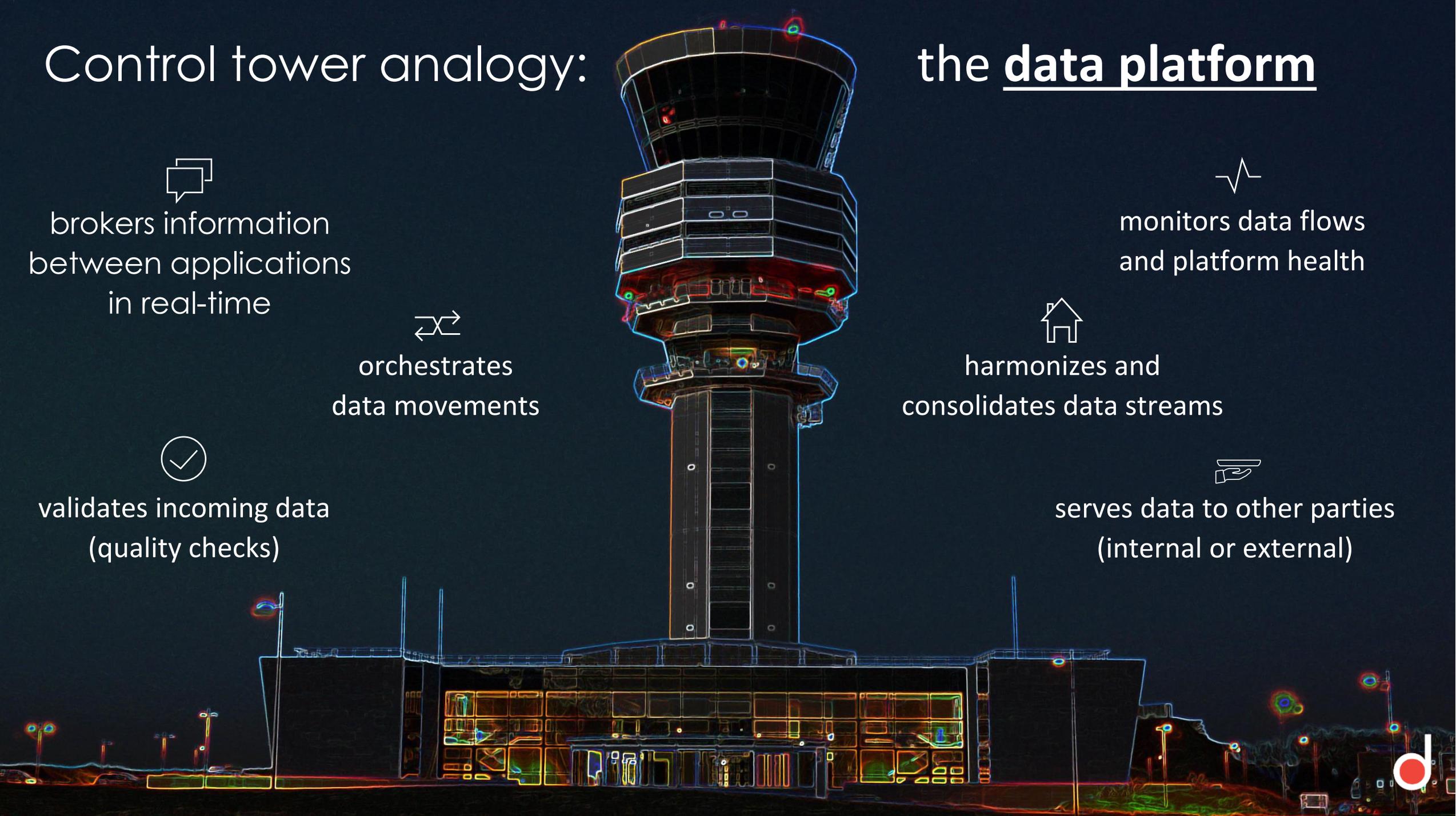
monitors data flows
and platform health



harmonizes and
consolidates data streams

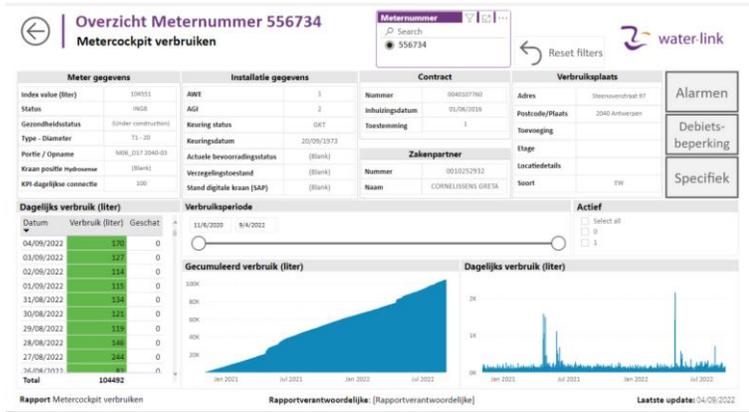
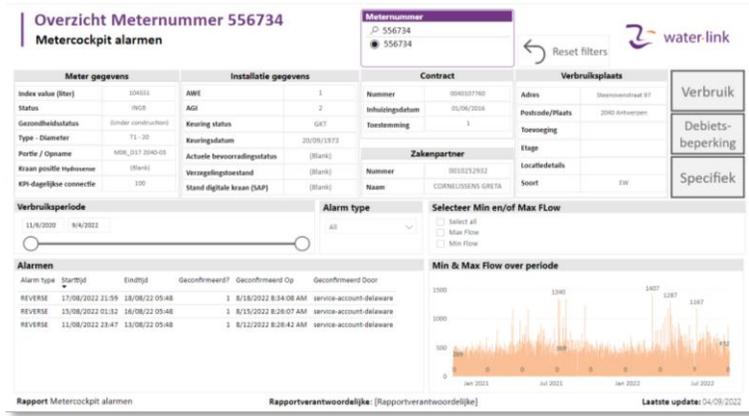


serves data to other parties
(internal or external)



water-link's data mesh – one central data hub feeds into multiple use cases serving different internal and external audiences and systems

Data consumption



events
→
←

events
→
←

feed events into
central data store

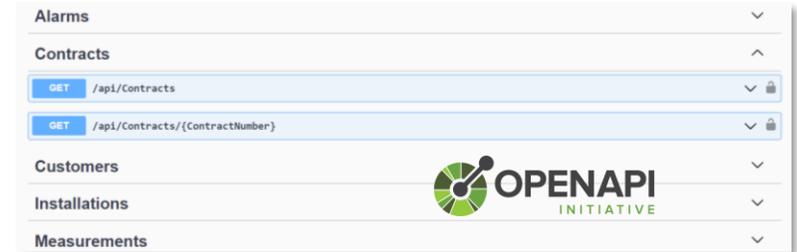


Azure data store &
data transformations

Automated rule engine



Data-as-a-Service (APIs)



Customer facing portal (Q4 '22)





Meterlijst

Digitale meters met leak alarm



Reset filters

# meters met leak alarm	# meldingen totaal	Postcode	Klantnaam	Meter Status
53	1159	2018	All	All
# niet geconfirmeerde leak alarmen	# open meldingen	Actieve melding	Gesloten melding	Geconfirmeerd
53	7	All	All	All

Lijst digitale meters met leak alarm

SAP Brief	SAP Manueel	Actieve melding	Gesloten melding	Confirmeer	Meter nummer	Klant nummer	Klantnaam	Diameter
		✗	✗		407633	0010010558		T1+ - 50
		✗	✓	✓	491238	0010271252		T2 - 20
		✗	✓		505026	0010113232		T1+ - 50
		✗	✗		505095	0010142522		T1+ - 50
		✗	✗		505135	0010144419		T1+ - 50
		✗	✓		505143	0010203323		T1+ - 50
		✗	✓		505468	0010110538		T1+ - 80
		✗	✓	✓	505619	0010208747		T1+ - 80
		✗	✗		505669	0010113291		T1+ - 80
		✗	✗		506042	0010287774		T1+ - 100
		✗	✗		507718	0015022932		T1 - 30
					510672	0010098522		T1 - 30
					566361	0015062256		T1 - 20



Overzicht Meternummer 556734

Metercockpit alarmen

Meternummer

🔍 556734

🗖 556734

Meter gegevens

Index value (liter)	104551
Status	INGB
Gezondheidsstatus	(Under construction)
Type - Diameter	T1 - 20
Portie / Opname	M06_D17 2040-03
Kraan positie Hydrosense	(Blank)
KPI-dagelijkse connectie	100

Installatie gegevens

AWE	1
AGI	2
Keuring status	GKT
Keuringsdatum	20/09/1973
Actuele bevoorradingsstatus	(Blank)
Verzegelingstoestand	(Blank)
Stand digitale kraan (SAP)	(Blank)

Contract

Nummer	00401077
Inhuizingsdatum	01/06/20
Toestemming	1

Zakenpartner

Nummer	
Naam	

Verbruiksperiode

11/6/2020

9/4/2022



Alarm type

All

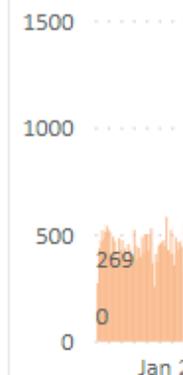
Selecteer

- Select all
- Max Flow
- Min Flow

Alarmen

Alarm type	Starttijd	Eindtijd	Geconfirmeerd?	Geconfirmeerd Op	Geconfirmeerd Door
REVERSE	17/08/2022 21:59	18/08/22 05:48	1	8/18/2022 8:34:08 AM	service-account-delaware
REVERSE	15/08/2022 01:32	16/08/22 05:48	1	8/15/2022 8:26:07 AM	service-account-delaware
REVERSE	11/08/2022 23:47	13/08/22 05:48	1	8/12/2022 8:26:42 AM	service-account-delaware

Min & Ma





Overzicht Meternummer 556734

Metercockpit verbruiken

Meternummer

Search

556734

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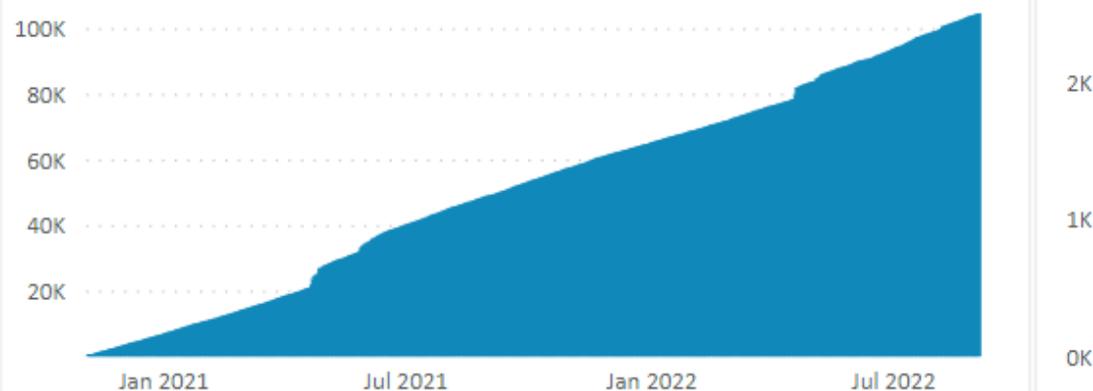
Dagelijks verbruik (liter)

Datum	Verbruik (liter)	Geschat
04/09/2022	170	0
03/09/2022	127	0
02/09/2022	114	0
01/09/2022	115	0
31/08/2022	134	0
30/08/2022	121	0
29/08/2022	119	0
28/08/2022	146	0
27/08/2022	244	0
26/08/2022	82	0
Total	104492	

Verbruiksperiode

11/6/2020 9/4/2022

Gecumuleerd verbruik (liter)



Boterbloemlaan 23 - 2180 Antwe

[← Terug](#)



Meterstand is niet recent

Meterstand is niet recent opgenomen omwille van slechte connectie; Bekijk hier [eventuele oop](#)

Meternummer: **406342**

Meterstand: **1 371 679 m³** (opgenomen op 12 juni 2022 (86 dag

Week

Maand

Jaar



a solid data foundation enables transformation
and allows people to think **“better different”**







+45%

increase **autonomy of frontline and field-service workers** by 2025

175 ZB

the **projected volume of utilities data** by 2025. By then, its global market could reach €10 billion

making it future-proof

enabling the field worker of the future

A team of digital-savvy field workers doesn't just allow utility companies to offer exceptional service, it also creates opportunities to improve operations and attract new talent.

how to build a data ecosystem

Utility companies are sitting on a mass of data. How can this data be monetized? Who will take the lead? And how can new types of public-private partnerships create new revenue streams?

green and blue deal

Climate change impacts every industry, but especially the utilities industry. Continuing to consume energy and water in the same way is unsustainable. The European Commission has pledged +€1 trillion in investments as part of the EU Green Deal, which will support the industry in becoming more sustainable.



thank you for your time

Questions?

Meet us at C2-302



delaware

