

Power BI vs. Real-Time Dashboards

It's Not Just About Looks



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O'REILLY®

Microsoft Fabric Analytics Engineer Associate Study Guide



Hands-on Practice
and Expert Tips for
Acing the DP-600
Certification Exam

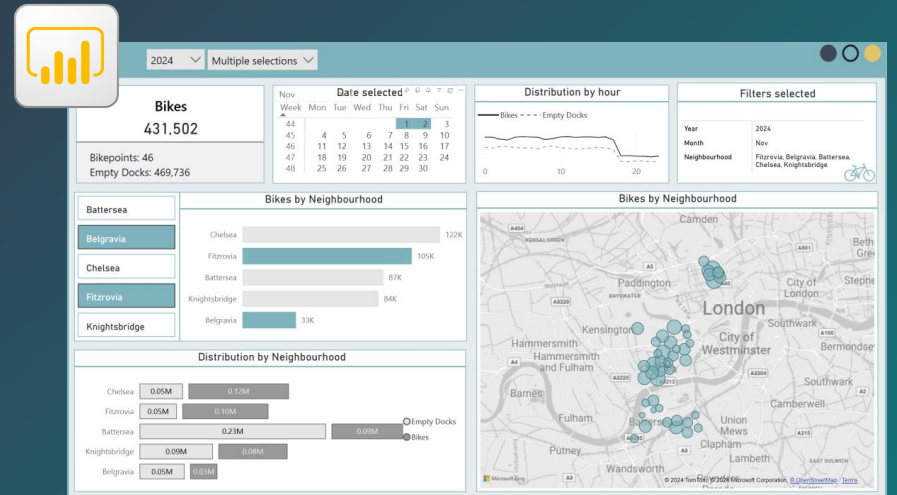
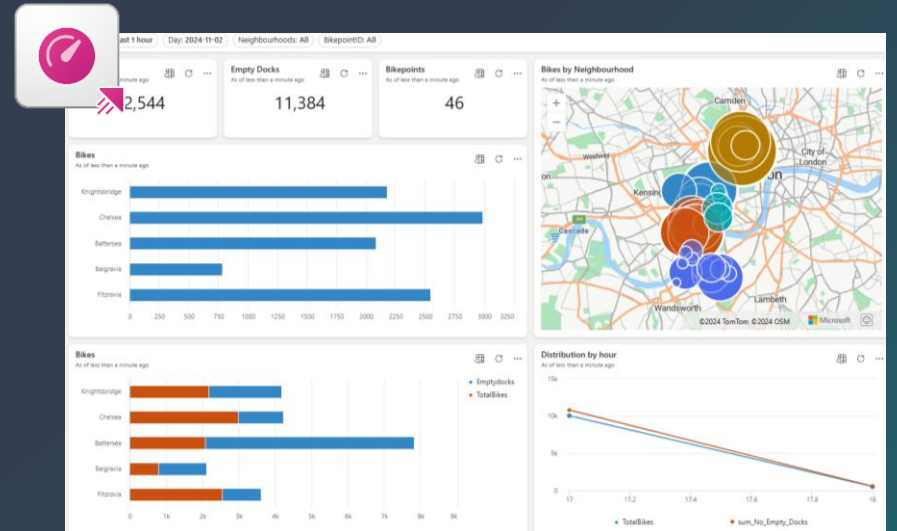
**Early
Release**
RAW &
UNEDITED

Brian Bønck & Valerie Junk



Real-Time vs Power BI

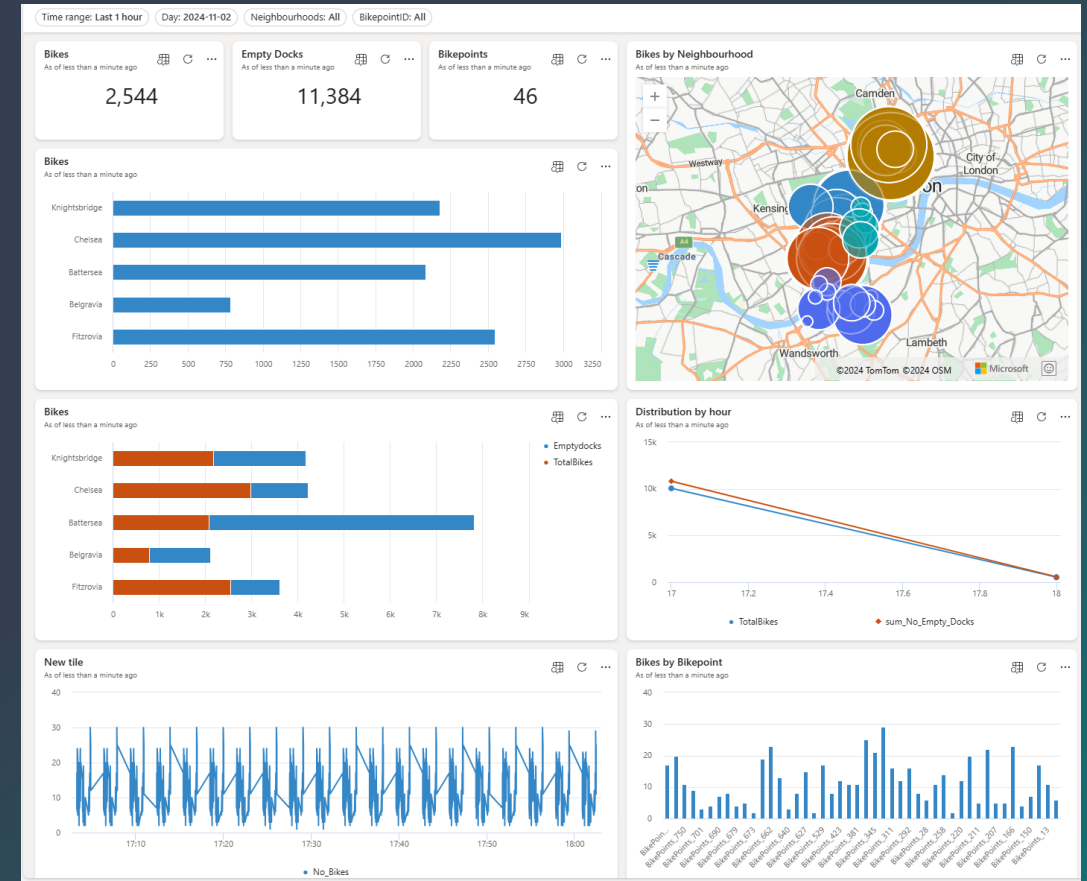
- **Power BI** and **Real-Time Dashboards** are both great options, each designed for different types of data needs and scenarios.
- Power BI: Built for deep insights, complex transformations, and interactive reporting.
- Real-Time Dashboards in Fabric: Ideal for event-driven, near real-time monitoring with immediate data updates and alerting.

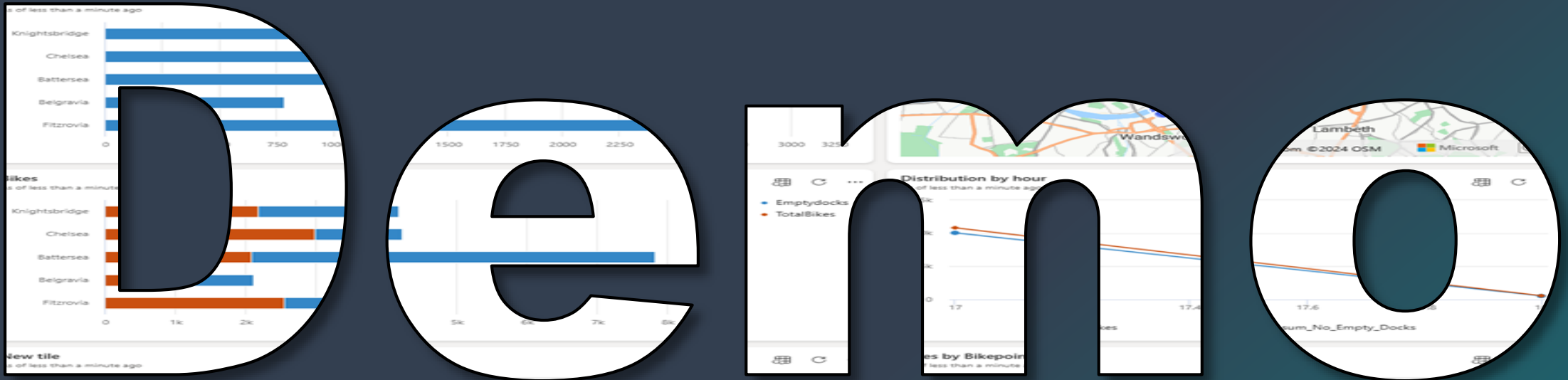




Real-Time Dashboard

- “Always on” – continuous data tracking
- High-frequency data updates
- Near real-time alerting
- Licensing: Fabric Capacity
- Perfect for monitoring any scenario with constantly updating data.



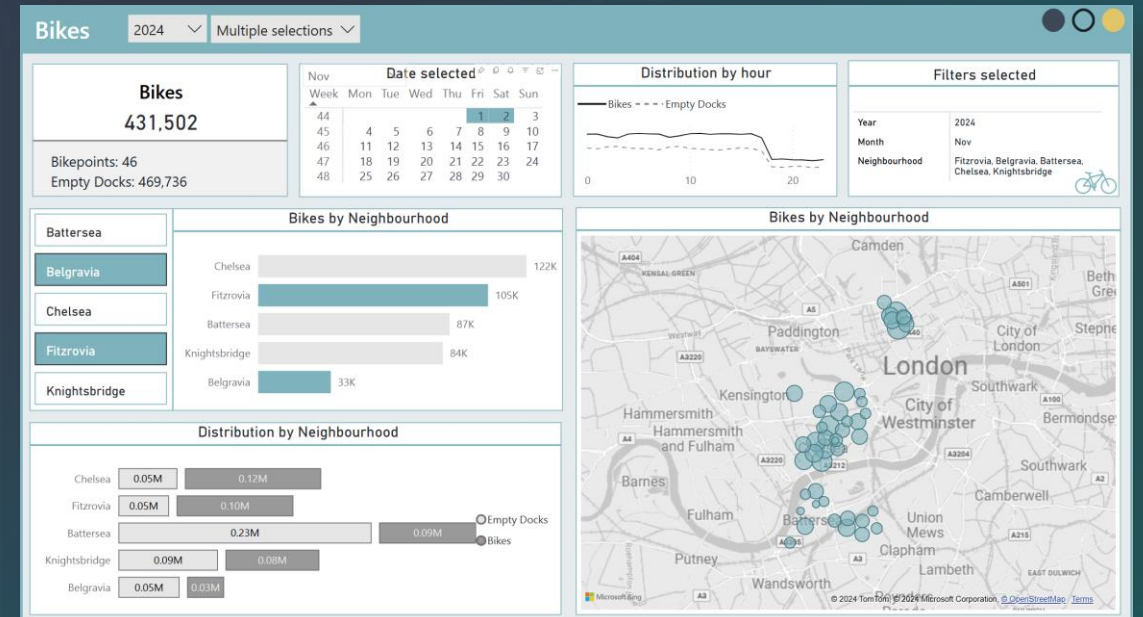
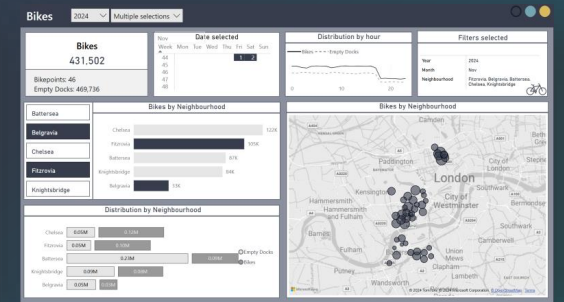
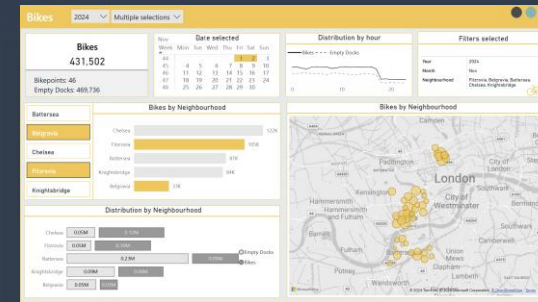




Power BI Report

- User experience (tailored insights)
- Easy Interaction & filter selection
- DAX
- Data visualization

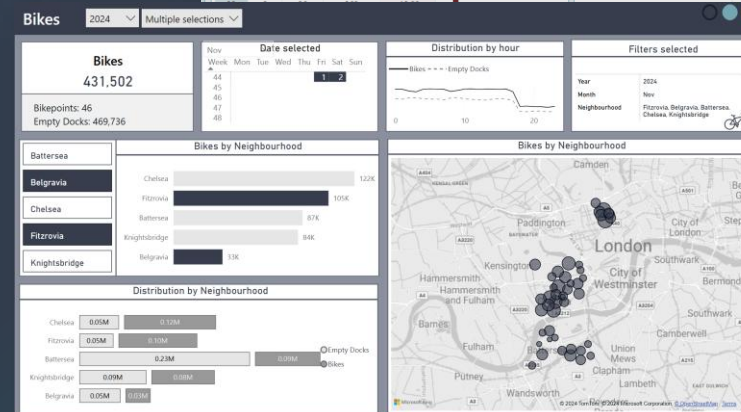
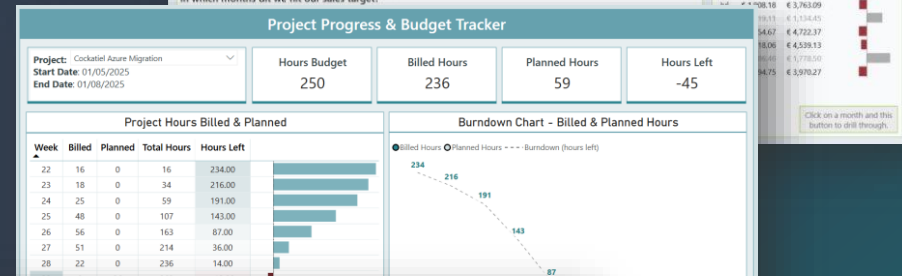
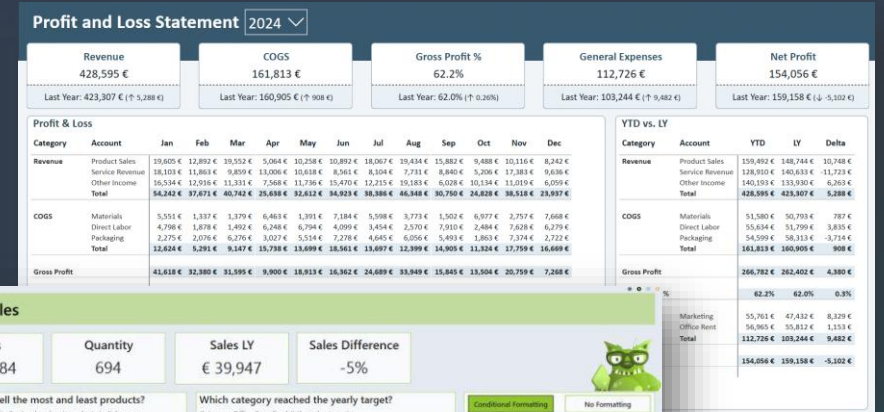
Licensing: Pro, PPU, E5 or F64+





Use Cases

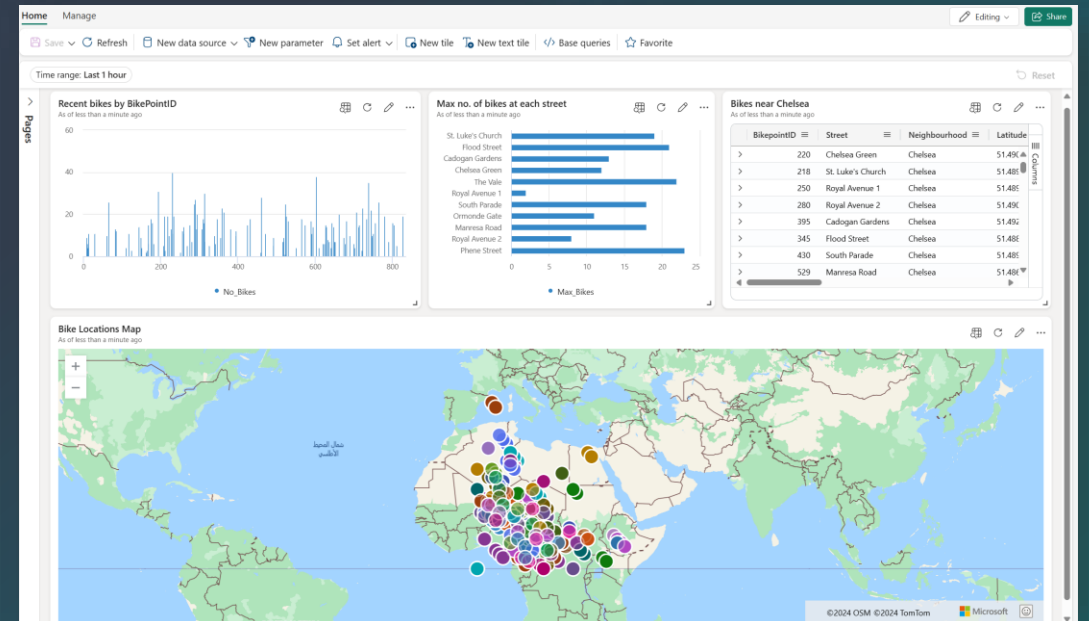
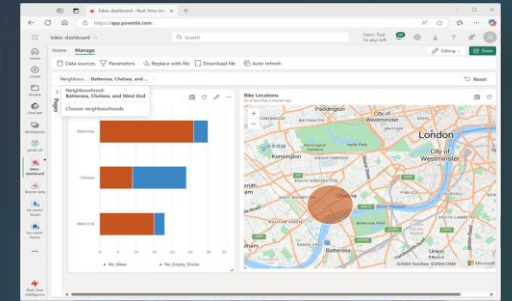
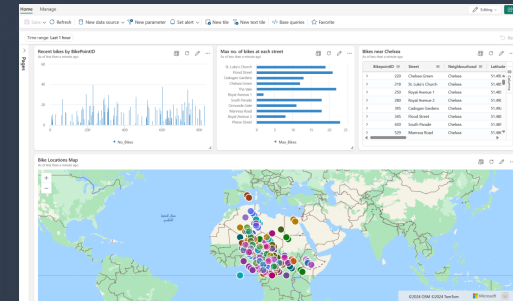
- (In depth) Data Analysis
 - Financial Analysis
 - Sales & Marketing
 - Human Resource Analysis
 - Supply Chain Optimization
 - Compliance
- What if Analysis
- Patterns & Trends





Real-Time Dashboard

- Visuals build for speed
- Manual interaction and filtering
- KQL
- Data insights and actions



Free – only consumes capacity units

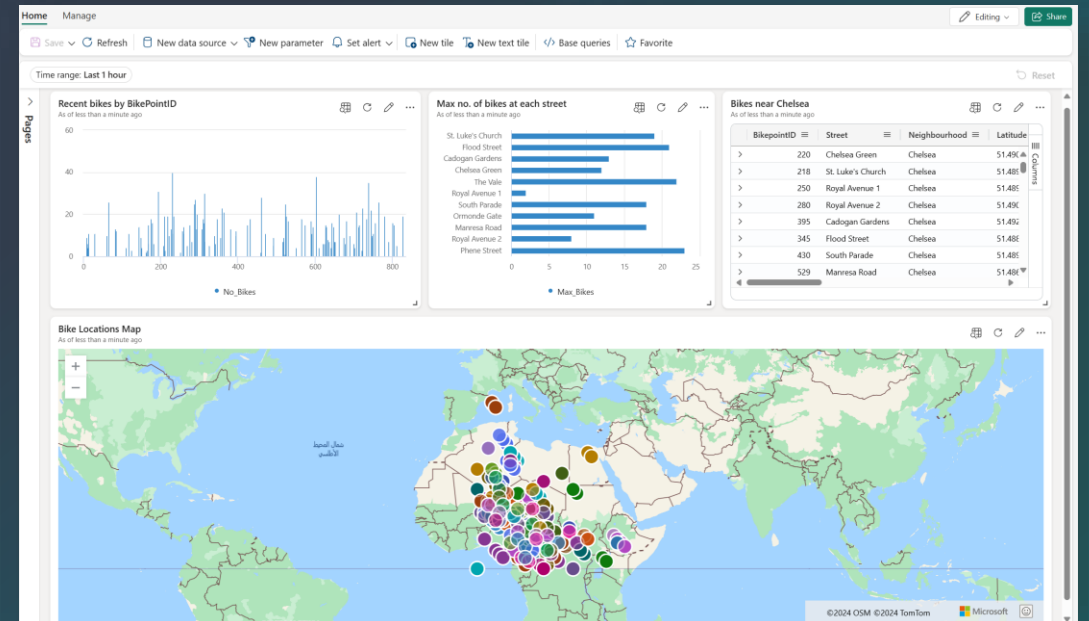
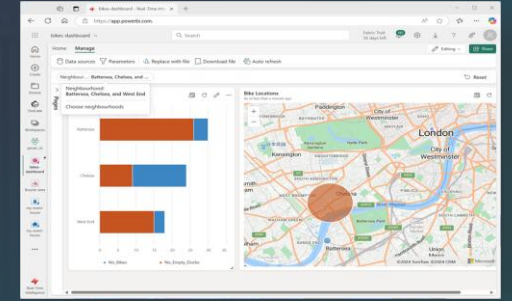
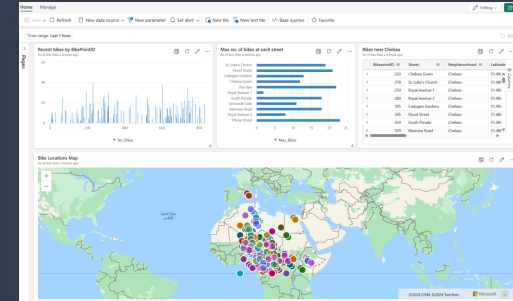


-
- The collage features several data visualization dashboards and charts:
- GitHub Repository Statistics:** A dashboard showing repository metrics for 'unplatform/uno-themes'. It includes:
 - Number of repos:** 925,430
 - Number of events:** 38,932,446
 - Logins:** 762,288
 - Type distribution:** A pie chart showing event types: PullRequestEvent (58.4%), PushEvent (33.4%), IssueEvent (3.4%), PullRequestCommentEvent (3.4%), and CommitEvent (3.4%).
 - Top 10 popular repos:** A bar chart showing repository popularity.
 - Number of events:** A line chart showing event frequency over time.
 - Repo data:** A table listing repository details like ID, RepoName, Type, and Actor.
 - Innovation Challenge:** A dashboard for active challenges and ideas.
 - Active Challenges:** A pie chart showing challenge distribution by domain (Industry IoT, R/D/I convergence, New business models, Other).
 - Active Challenges:** A bar chart showing the number of ideas for various challenges like Connected Operations, Enterprise sustainability, Connected products, Big data, and 3D Printing.
 - Active Ideas:** A bar chart showing the number of ideas for various ideas like Connected quality control, Connected Operations, Fleet automation, Connected Operations, and Cloud computing.
 - Timeline:** A section for capturing and managing records in a timeline.
 - Total Deliveries:** A dashboard showing delivery metrics.
 - Total Deliveries:** 2,530,000
 - Long Deliveries:** 429,069
 - Cost:** 1,892
 - Recent Deliveries - Avg Distance by Time:** A line chart showing average distance over time.
 - Longest deliveries by location:** A bar chart showing the longest deliveries by location.
 - Distance by Vendor:** A dashboard showing distance metrics.
 - Distance by Vendor:** A bar chart showing distance by vendor.
 - Breakdown:** A pie chart showing the breakdown of distance by vendor.
 - Distance by Vendor:** A line chart showing distance by vendor over time.



User Experience

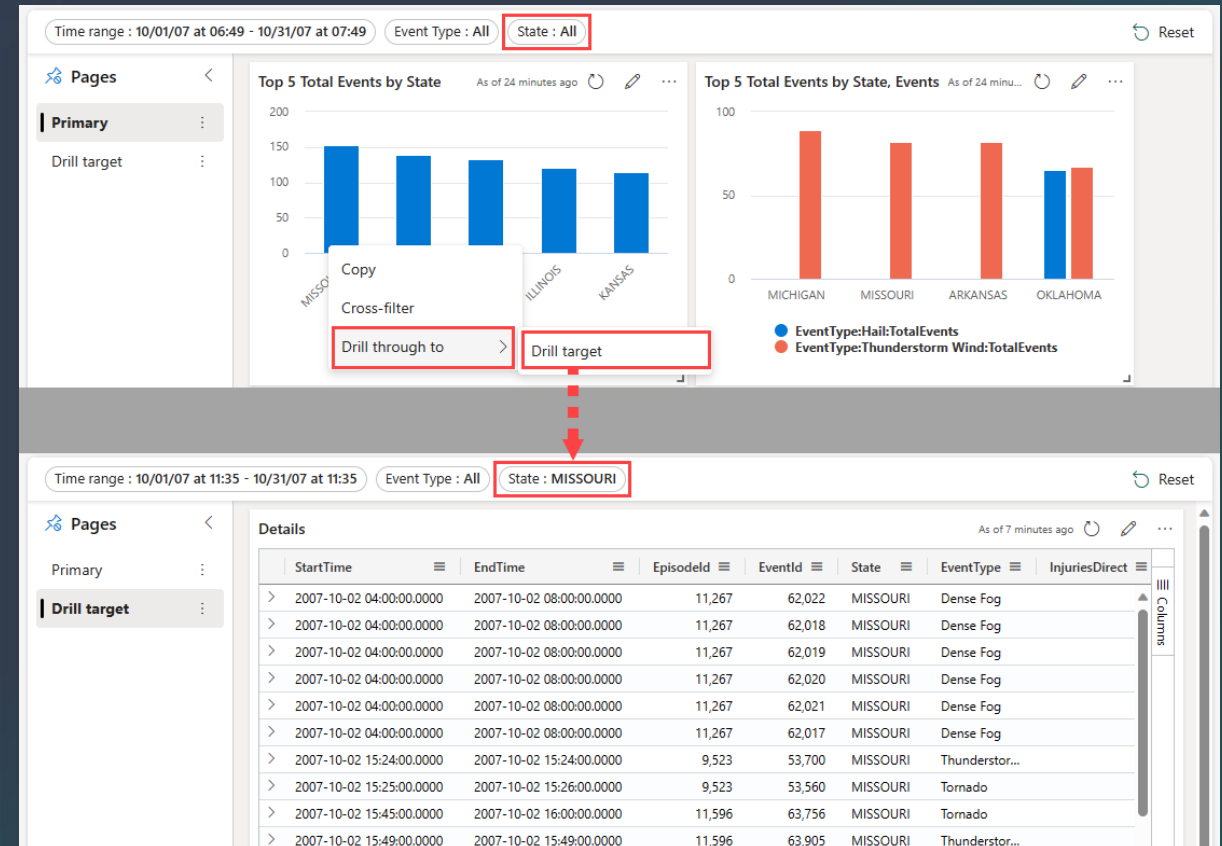
- Fixed reporting with fixed layouts
- Limited set of standard visuals
- Plotly extension for Python based reporting
- Built-in visuals at query time
- Cross filtering must be done manually





Interaction & filter selection

- All filters must be created manually
- Extensive date/time filtering
- Drill through options





KQL (& Dataviz)

- Datasets somewhat reusable
- Limited set of standard visuals
- Some conditional formatting (colours and icons)

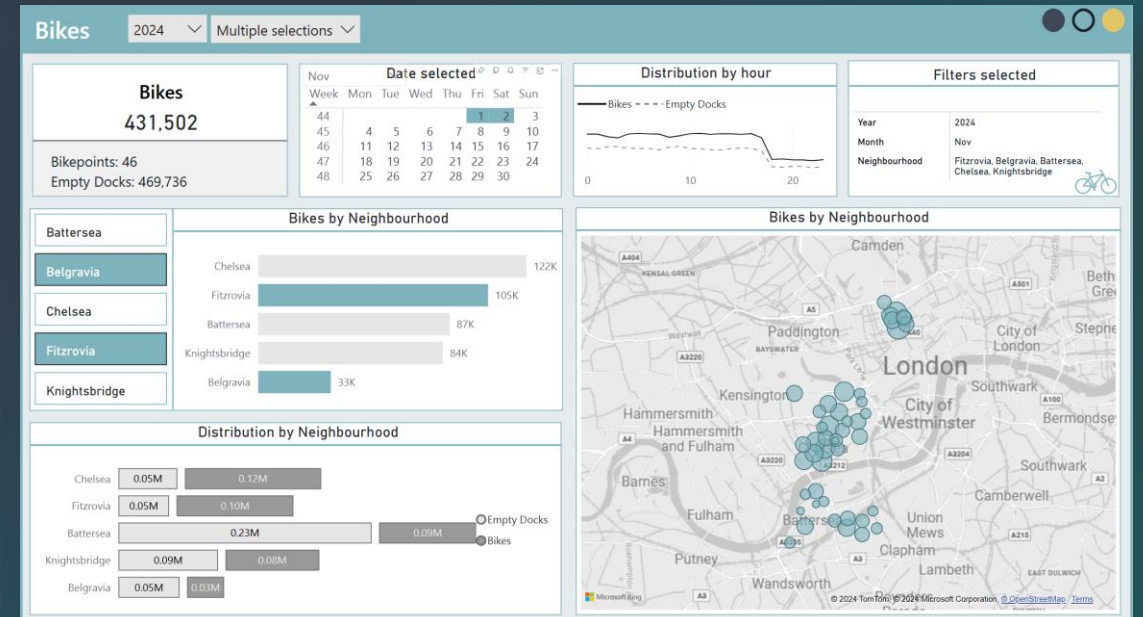
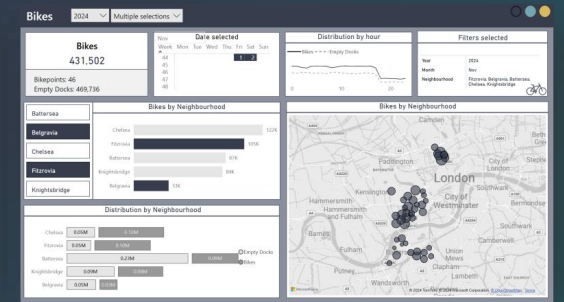
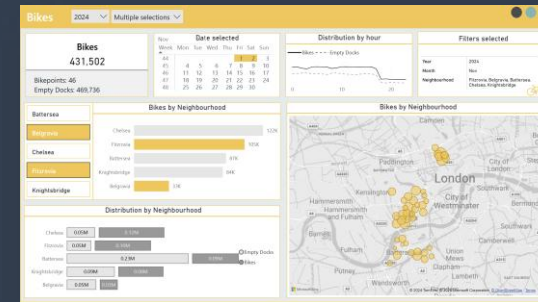
Cold/Wind Chill ⚠ 17	Excessive Heat 6	Flash Flood 1
Heat ⚠ 20	Heavy Rain 1	High Wind 1
Marine Strong Wind 1	Thunderstorm Wind 7	Tornado ⚠ 31

EventType	Count
> Cold/Wind Chill	17
> Excessive Heat	6
> Flash Flood	1
> Hail	1
> Heat	20
> Heavy Rain	1
> High Wind	1
> Hurricane (Typhoon)	1
> Marine Strong Wind	1
> Thunderstorm Wind	7
> Tornado	31
> Wildfire	8
> Winter Weather	2



User Experience

- Personalize reports
- Visuals can be created for a specific audience
- Easy to use and interactive





- Bikes by Neighbourhood**

Neighbourhood	BikePoint	Street	Bikes	Empty Docks	Time
Chelsea	662	Phene Street	24	0	09:06:34
Chelsea	662	Phene Street	24	0	09:09:38
Chelsea	662	Phene Street	24	0	09:12:42
Chelsea	662	Phene Street	24	0	09:15:47
Chelsea	662	Phene Street	24	0	09:18:51
Chelsea	662	Phene Street	24	0	09:21:55
Chelsea	662	Phene Street	24	0	09:25:00
Chelsea	662	Phene Street	24	0	09:28:04
Chelsea	662	Phene Street	24	0	09:31:08
Chelsea	662	Phene Street	24	0	09:34:12
Chelsea	662	Phene Street	24	0	09:37:16
Chelsea	662	Phene Street	24	0	09:40:20
Chelsea	662	Phene Street	24	0	09:43:24
Chelsea	662	Phene Street	24	0	09:46:29
Chelsea	662	Phene Street	24	0	10:38:45
Chelsea	662	Phene Street	24	0	10:41:49
Chelsea	662	Phene Street	24	0	10:44:54
Chelsea	662	Phene Street	24	0	10:47:58
Chelsea	662	Phene Street	24	0	10:51:02
Chelsea	662	Phene Street	24	0	10:54:07
Chelsea	662	Phene Street	24	0	10:57:11
Chelsea	662	Phene Street	24	0	11:00:15
Chelsea	662	Phene Street	24	0	11:03:19
Chelsea	662	Phene Street	24	0	11:06:25
Chelsea	662	Phene Street	24	0	11:09:29
Chelsea	662	Phene Street	24	0	11:12:33
Chelsea	662	Phene Street	24	0	11:15:37
Chelsea	662	Phene Street	24	0	11:18:42
Chelsea	662	Phene Street	24	0	11:21:46
Chelsea	662	Phene Street	24	0	11:24:50
Chelsea	662	Phene Street	24	0	11:27:55
Total			39331	17006	

Bikes by Street

Street	Bikes
Phene Street	5.9K
Flood Street	5.4K
St. Luke's Church	5.1K
The Vale	4.5K
Mansera Road	4.5K
South Parade	3.2K
Chelsea Green	3.2K
Cadogan Gardens	2.6K
Ormonde Gate	2.4K
Royal Avenue 2	2.1K
Royal Avenue 1	0.5K

Empty Docks

Street	Empty Docks
Ormonde Gate	4.1K
Flood Street	3.4K
Royal Avenue 1	2.2K
The Vale	1.9K
South Parade	1.6K
Cadogan Gardens	1.4K
Chelsea Green	0.8K
Royal Avenue 2	0.6K
Phene Street	0.5K
Mansera Road	0.3K
St. Luke's Church	0.2K

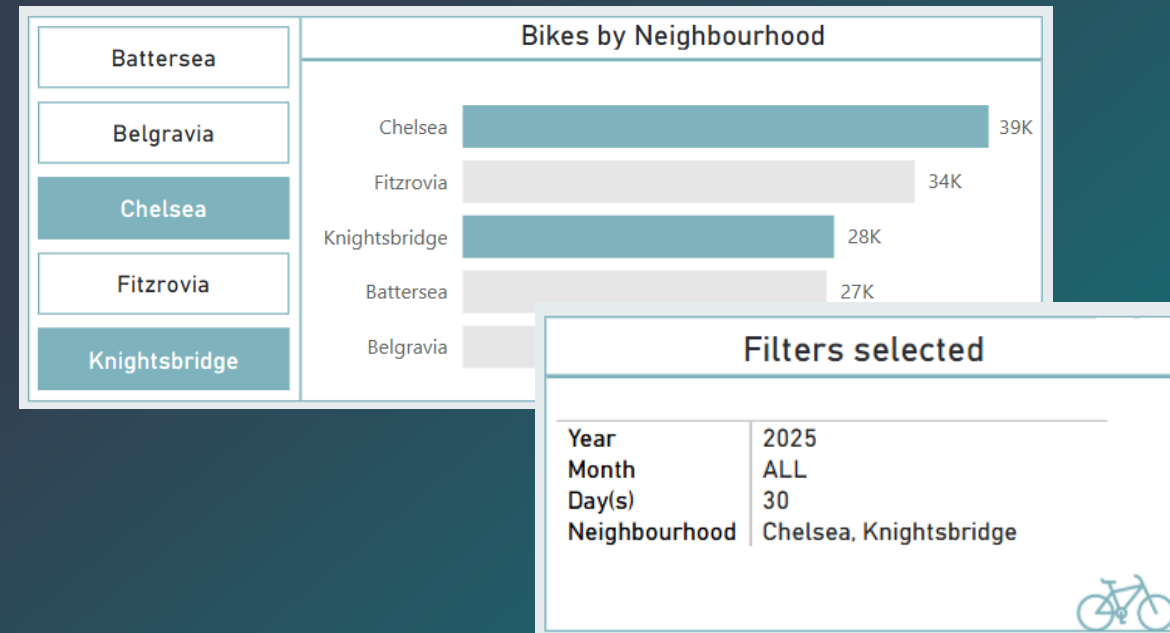
Empty Docks

Street	Empty Docks
Ormonde Gate	2.4K
Flood Street	3.4K
Royal Avenue 1	2.2K
The Vale	1.9K
South Parade	1.6K
Cadogan Gardens	1.4K
Chelsea Green	0.8K
Royal Avenue 2	0.6K
Phene Street	0.5K
Mansera Road	0.3K
St. Luke's Church	0.2K



DAX (& Dataviz)

- DAX measures (reusable)
- Wide range of native visuals (bar, line, pie, KPI, maps).
- Conditional formatting for action driven storytelling.



Demo

Feature comparison

Real-Time vs Power BI

Feature	Real-Time Dashboards	Power BI
Refresh Rate	Near real-time (always on)	Scheduled refresh
Interactivity	Limited interactive	Interactivity
Visualization	Limited	Highly customizable
Alerting	Teams, email or Fabric item	Teams & email
Use Case	Event data, traffic, IoT	In depth & action-driven

POWER BI vs REAL-TIME DASHBOARDS



FILTERING



COST



VISUALIZATION



DATA ACCESS



SHARING



REAL-TIME
DASHBOARD

DYNAMIC TIME
RANGE
FILTERING

THE
EVENTHOUSE
COST IS THE
ONLY CU USAGE

LIMITED
GALLERY. CAN
USE PLOTLY FOR
CUSTOM VIZ

ONLY KQL DATA
AND IN "DIRECT
QUERY"

SHARING
REQUIRES
ACCESS TO THE
KQL DATA



POWER BI
REPORT

EASY FILTER ON
EVERYTHING

Power BI
Licences

RICH GALLERY
WITH EXTENSIVE
CUSTOMIZATION
CAPABILITIES

IMPORT, DIRECT
QUERY, DIRECT
LAKE

EASY SHARING
BOTH INTERNAL
AND EXTERNAL

The two tools are complimenting each other and have different purposes

When use what?

**When use
what?**

Question	Tool
• Real-time updates?	• Real-Time Dashboards
• In-depth exploration?	• Power BI
• Alerting critical?	• Real-Time Dashboards
• Complex, multi-layered report?	• Power BI

Try it yourself!

- 8-step tutorial with sample data
- Create a Real-time dashboard
- Import results in Power BI



<https://learn.microsoft.com/fabric/real-time-intelligence/tutorial-introduction>

Takeaway

Real-Time Dashboards

- Always on, constantly changing
- Events, IoT sensors, Traffic
- High-frequency data updates



Power BI

- Strategic and Detailed Analysis
- In-depth data exploration with advanced visualizations and filtering



Have you seen the dragon?



Help him!

Thank you



Session eval ↘

