

Building Real-time Visualizations with Power BI



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What's in this module?



Power BI Real-time Visuals

Streaming Tiles

Real-time Report Visuals

Power BI Alerts

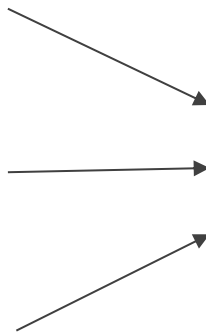




3. Microsoft Power BI

Rich self-service reports and dashboards





Event Hub



Stream Analytics



Power BI



Real-time Visuals



Real-time Datasets



Streaming Dataset



Push Dataset

Real-time Visuals



Streaming tiles on a dashboard



Report visuals pinned to a dashboard

Streaming Tiles

Supports very fast dashboard refresh

Limited graphics options

Not accessible from inside a report



Report Visuals

Any graphic type supported

Includes custom visuals

Refresh rate is slower (~5 secs)

Must be pinned to dashboard





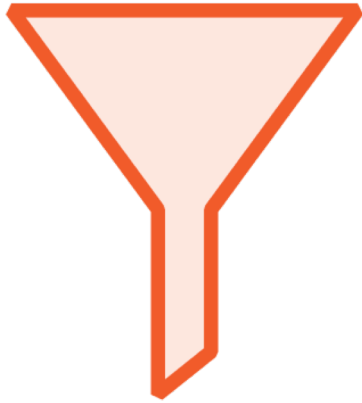
The best real-time dashboard will mix both type of
visuals.



Let's continue building our
solution!



Machinery Temperature Monitoring



We have aggregated the temperature readings and added reference information to them



We want users to visualize and receive alerts on this data in real-time

Machine Temperature Dashboard



We will start by adding a streaming tile to show the real-time change in machine temperature.



Demo



Adding a streaming tile to a Power BI dashboard



Real-time Report Visuals



Manual refresh inside a report

**Auto-refresh when pinned to
a dashboard**



Auto-Refreshing Report Visuals

You want to show a small recent window of time

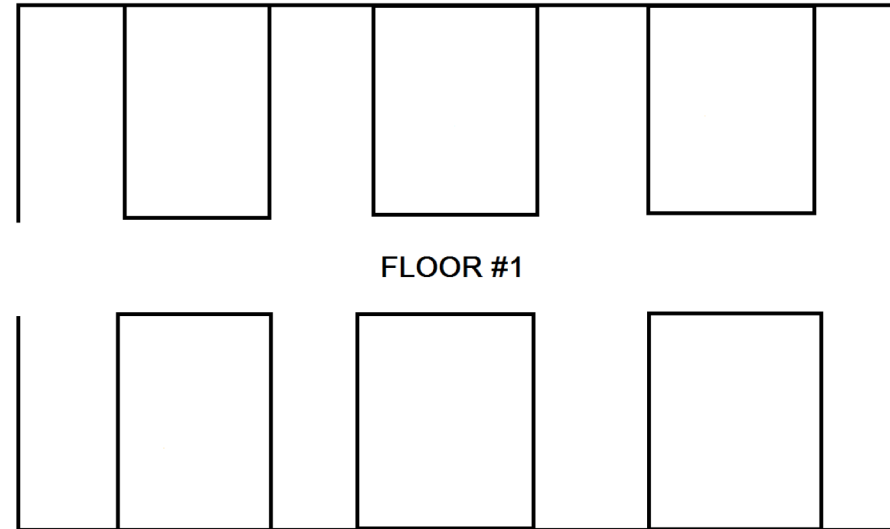
Add a Top N Filter based on the timestamp field

We need to use the text representation of the timestamp

Pin the visual to the dashboard



Power BI Custom Visuals



We are going to use a “Synoptic Panel” custom visual to represent the machines in the factory floor.



Demo



Creating a custom real-time report visual



How do we react to real-time data changes?



Power BI Alerts



Power BI can notify you when a certain data point reaches a certain threshold value.

Alerts

Set on tiles pinned from report visuals

Must be a gauge, KPI, or a card

Triggered when a value goes above or below a threshold

A notification and an e-mail can be sent



Machine Temperature Alert



We want to alert operators when the temperature of one of the machines in an energy panel goes too high.



Demo



Configuring a Power BI Alert from a
real-time visual



Summary



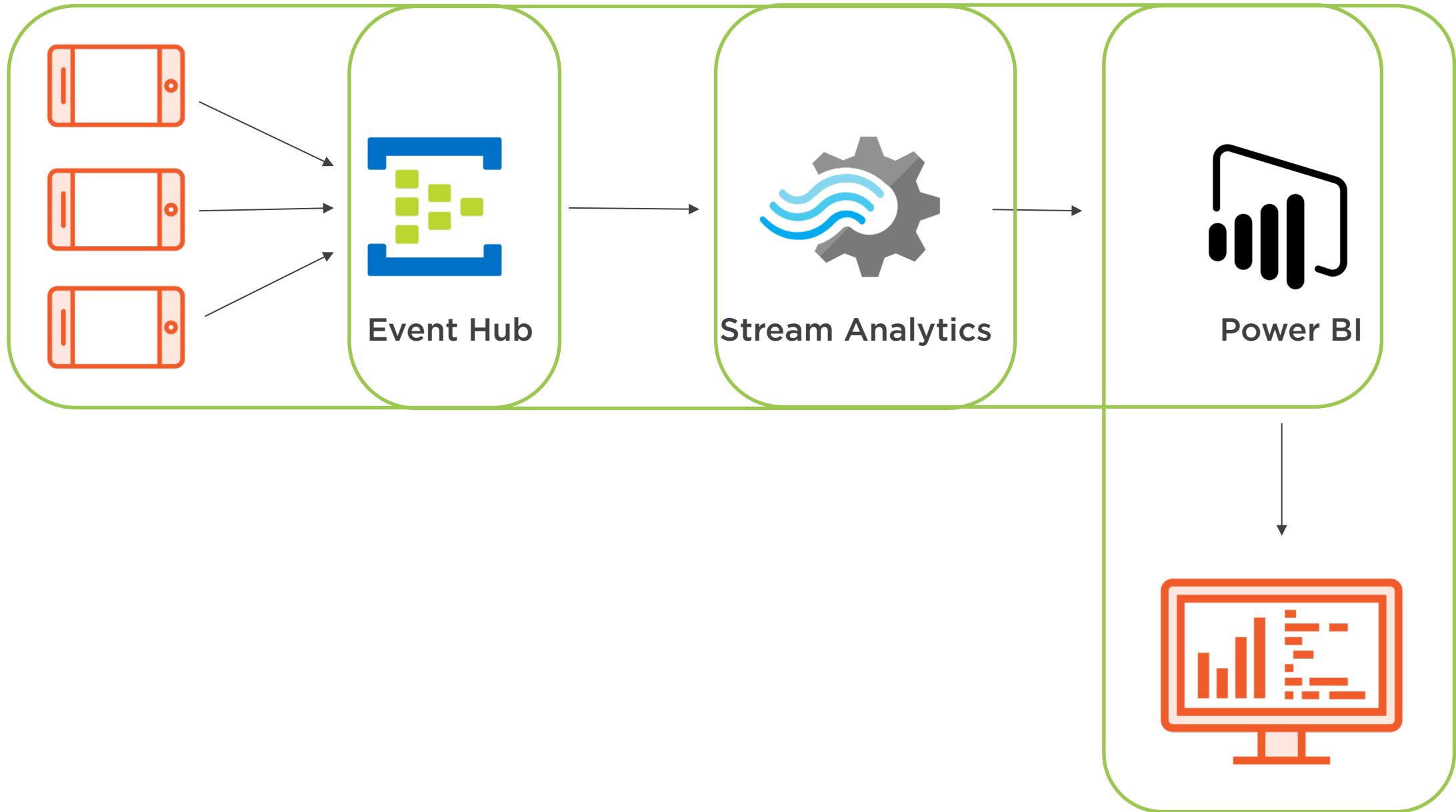
Power BI supports real-time dashboards through streaming tiles or pinned report visuals

Streaming tiles are added through the dashboard experience

Any report visual can have real-time behavior

It is very easy to monitor alert values in real-time with Power BI





Build your own real-time
dashboard solution!

