

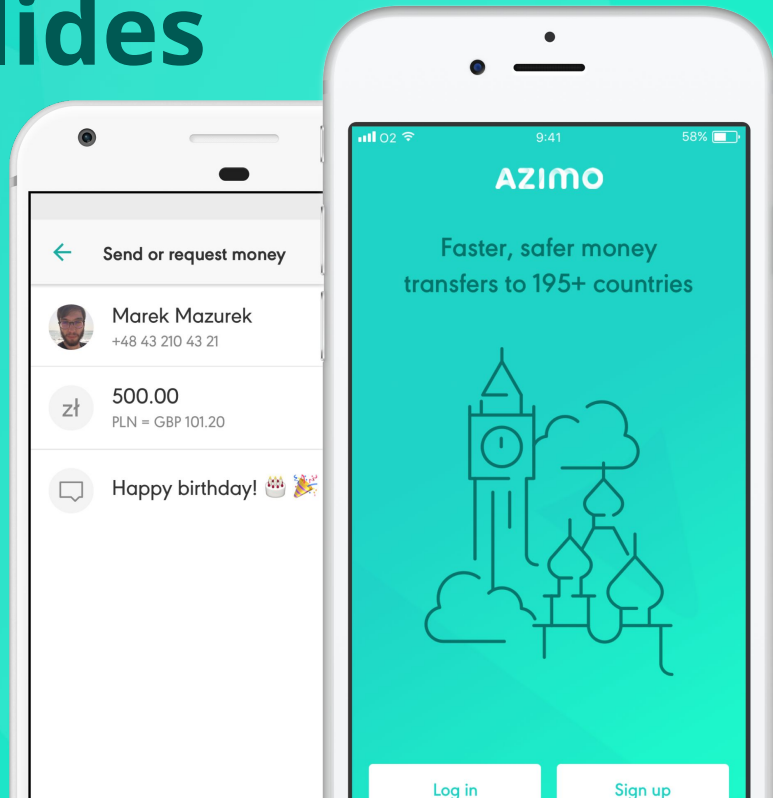


# Automating Google Slides creation

## Why R? 2019

Warsaw

September 28th 2019



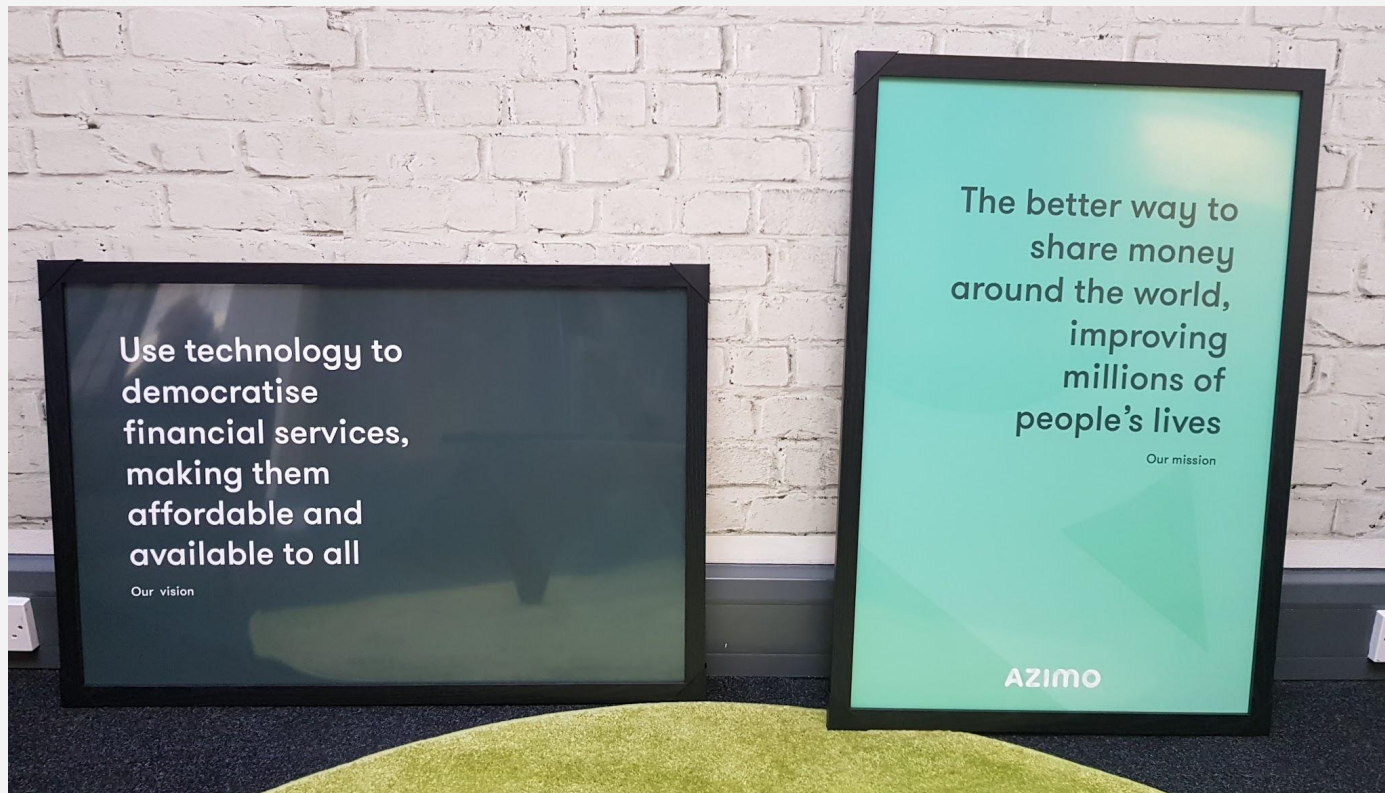
# What we'll talk about

- What does Azimo do?
- How do we do it?
- Could we do it better?

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# Our vision and mission remain unchanged



## User vs. Platform perspective



**Sending countries**

**Receiving countries**

**Multiple services**

**25 European countries**

**183 in 2019 so far**

**Over 14.5k base  
price points**

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- **How do we do it?**
- Could we do it better?

# Analytical technical stack and typical workflow



**Data storage:  
Google BigQuery**



**Visualization:  
Domo**



**Reporting:  
Google Suite**

**Despite embedded automation insight generation requires much repetitive manual effort from analyst!**



# Comparing alternatives: Google Apps Script vs. R



Google Apps Script

- ✓ Native to Google Suite  
(comparable to VBA)
- ✗ Limited analytical capabilities
- ✗ Not so popular yet,  
few resources available so far



- ✗ R packages calling Google APIs  
(dependency, limited API coverage)
- ✓ Limitless analytical capabilities
- ✓ Various packages available,  
limiting development needs

# Automated workflow using GAS

## Importing data

- Possibility to query directly against Google BigQuery
- Otherwise need to separately import files with data to Google Drive

## Generating insights

- Analytical functions need to be either embedded in Google Sheets or developed in GAS
- Outputs may be saved into Google Sheet documents and linked to chart objects

## Creating report

- Possibility to update old reports after updating linked Google Sheet documents
- When creating new chart, linked Google Sheet document is created by default

**All processes need to be run under the same Google account**

# Automated workflow in R

## Importing data

- Authenticating Google client access
- Possibility to prepare ETL processes beforehand

## Generating insights

- Applying relevant analytical process per desired aggregation level, e.g. transaction corridor
- Saving outputs as images locally
- Exporting outputs from previous step to Google Drive

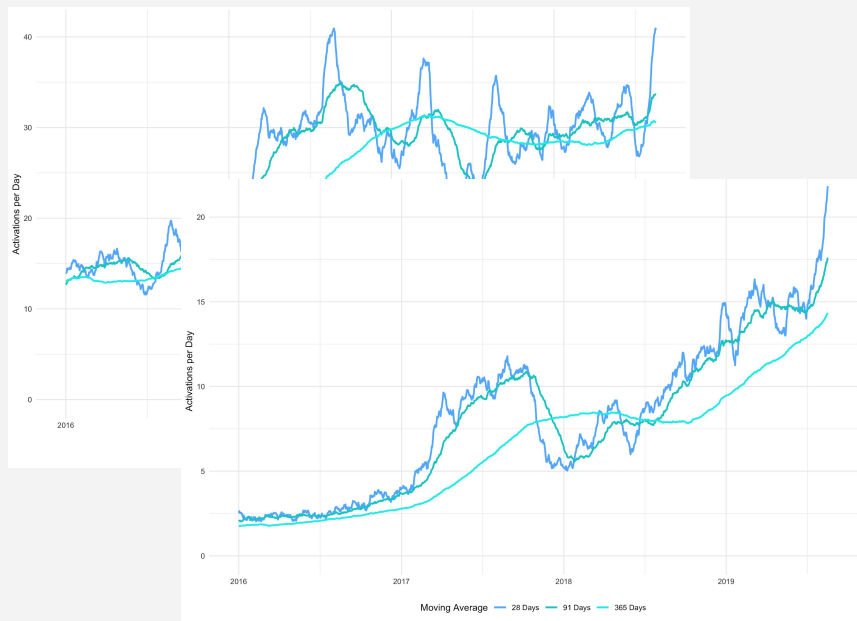
## Creating report

- Creating new presentation with relevant objects per slide
- If necessary extending new slides with more elements using GAS, e.g. slide titles

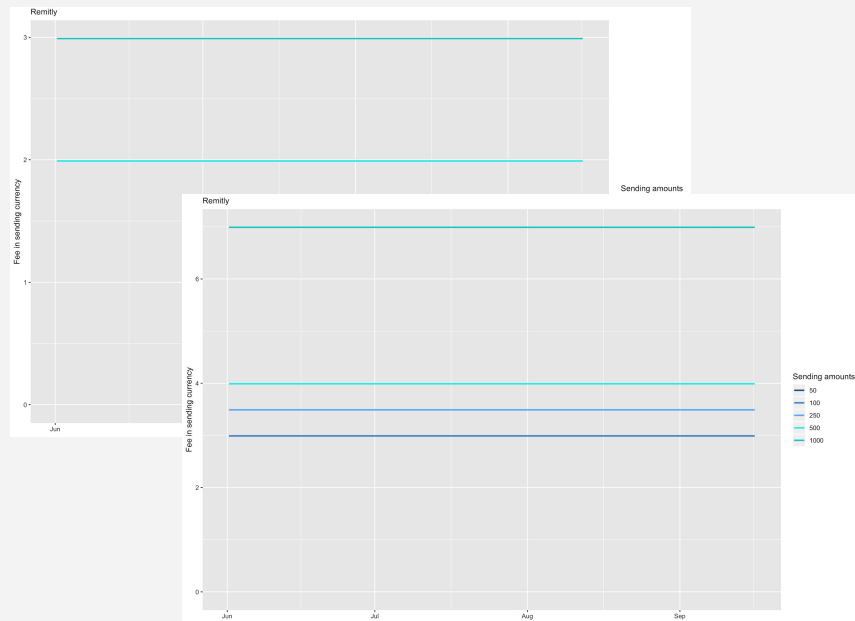
Packages used: [bigquery](#), [googledrive](#) and [rgoogleslides](#) (except for analytical part)

# Examples of business applications

## Trend analysis per corridor












## Fee differentiation by competitor



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# Next steps for Azimo

- Obtaining management buy-in with proof of concept:  
   Tough to show value when starting from scratch
- Developing current package capabilities:  
   Making wider use of Google Slides API scope
- Professionalizing analytical solutions:  
   Server deployment and regular report creation