



CUSTOMER SPOTLIGHT

A stroke  
of innovation:  
How Reykjavík  
is building a better  
city through data



# Summary

Just as the city's geothermal pools act as a social equalizer where titles are set aside, Óli Páll built a data culture centered on transparency and collective insight. By removing technical barriers with open-source tools, he created an environment where data is no longer trapped in silos but is shared openly to improve the lives of every citizen.

## ABOUT :

The City of Reykjavík is Iceland's capital and largest municipality, where a dedicated data science team uses open-source tools to build public-facing applications that improve the daily lives and digital services of its residents.

## INDUSTRY :

Public Sector

## TECHNOLOGY USED :

Posit Connect, Posit Workbench,  
Posit Package Manager





“ It can be harsh like a lunar landscape, but it can also be vivid and green. I have these moments when I’m biking to work and it’s dark. I can see the stars and I can see the moon. What a moment. I’m experiencing this moment as part of the universe. I can see the universe at its deepest. ”

**ÓLI PÁLL GEIRSSON**

Chief Data Officer  
@ Reykjavik, Iceland

# The Challenge:

## Mapping Real-Time Public Needs



While answering how crowded a pool is seems like a straightforward question, the reality is a complex data challenge involving transient visitor counts and varying pool capacities across the city. Without a way to process and visualize this real-time information, citizens struggled to choose the right atmosphere for their daily routines, and the city lacked a method to deliver these essential insights quickly.

“We are going to use the power of data to enhance the quality of life for somebody. How amazing is that?” Óli is big on conversations, on listening. He’s decidedly proactive about it.

“We are not an institution that you come to. We are a service center that comes to you. It wouldn’t make any sense for a data science team to exist in a corner office alone, training models, and not having conversations with anybody.”



- **SOLVING FOR TRANSIENT DATA COMPLEXITY:**  
Determining pool occupancy is a complex data problem because attendance is transient and varies by location, requiring a system that can account for peak hours and varying pool sizes in real time.
- **BRIDGING LIMITATIONS BETWEEN DATA & UTILITY:**  
The city needed to transform raw visitor counts into meaningful insights for citizens, helping them decide between a social atmosphere or a quiet retreat based on current crowding levels.

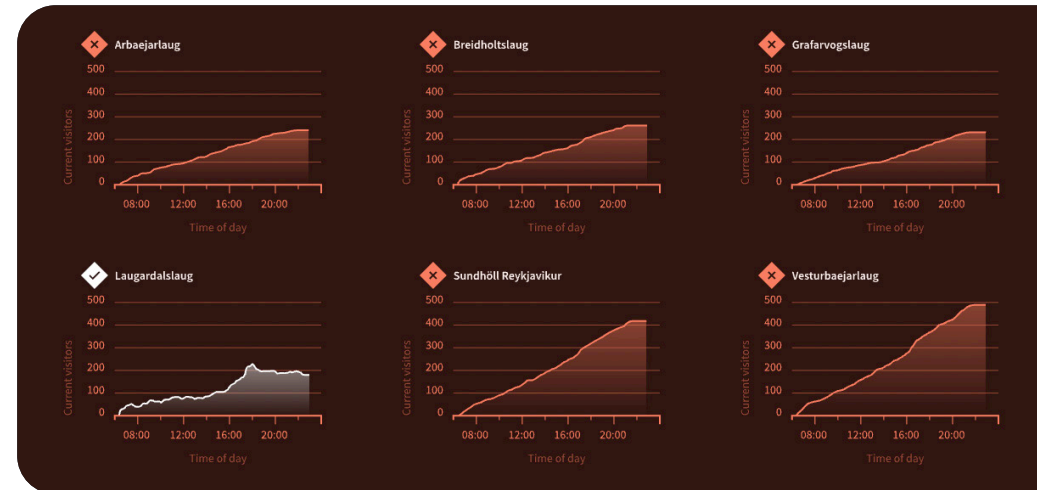
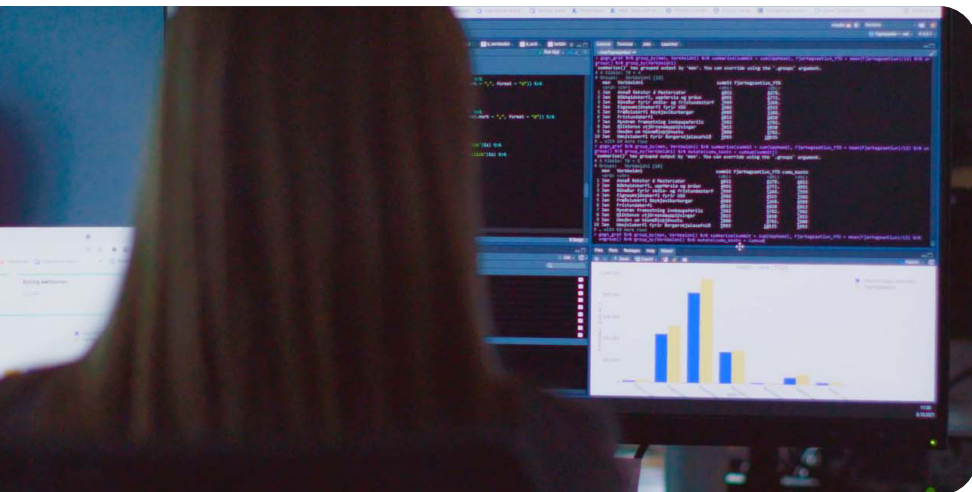
# The Challenge:

## Beyond the API

“Predict durations for people across the other five pools using live API data.”

- **HLYNUR HALLGRÍMSSON**, Senior Data Scientist

While the project initially seemed like a simple task of ingesting turnstile data, the team encountered significant hurdles that transformed a straightforward visualization into a complex data science problem.



- **THE DATA OWNERSHIP BOTTLENECK:**  
A fundamental disagreement over data ownership created a 12-month legal roadblock, preventing the team from accessing the vendor-controlled records needed to start their research.
- **THE TRAGEDY OF “DIRTY” DATA:**  
Electronic gates tracked entries but failed to record when citizens left, creating a cumulative data flaw that required a custom predictive model to calculate real-time occupancy.
- **THE STAGNATION OF STATIC REPORTING**  
The entrenched belief that data science was a slow, back-office function hindered engagement, as stakeholders were accustomed to static reporting rather than the real-time tools Posit enables.

# The Solution:

## Improving Civic Life through Open Source

Just as the city's geothermal pools act as a social equalizer where titles are set aside, Óli Páll built a data culture centered on transparency and collective insight. By removing technical barriers with open-source tools, he created an environment where data is no longer trapped in silos but is shared openly to improve lives.

- **BUILDING A PREDICTIVE FOUNDATION**  
By modeling variables like seasonality and time of day, Hlynur transformed “dirty” entrance data into a reliable occupancy forecast that predicts when citizens will likely leave the pool.
- **EMPOWERING A BETTER DIGITAL LANDSCAPE**  
The team delivers rapid civic solutions by hosting a modular “constellation” of apps on a single Posit infrastructure. This strategy makes digital services like trash calendars and voting maps easy to build and maintain. services that remain easy to maintain and evolve.



### The Transformation by the Numbers

- **5-Minute Real-Time Updates**
- **48-Hour Prototype Turnaround**  
Moving away from stagnant reporting.
- **100% Automated**  
“Insight-to-Impact” Pipeline
- **Single-Source Data Governance**  
Full API access and ownership of it's own data from day one.
- **Scalable “Constellation” Architecture** Civic Apps that all run on the central Posit infrastructure



# Results:

## Impacting Citizens, One App at a Time

Using Posit Connect, the City of Reykjavík has transformed its digital landscape. The team now deploys Shiny applications that provide direct value to residents, proving that a small, resourceful team can achieve large-scale results when empowered by the right tools.

### TECHNICAL FOUNDATION: AZURE & POSIT

The team built their modern data stack by integrating Posit Team with Azure. This setup allows them to maintain a “Code-First” approach while leveraging cloud scalability. By using this infrastructure, they avoided the high costs and rigidity of traditional

### FINANCIAL TRANSPARENCY TOOLS:

The team built internal dashboards that allow department heads to visualize their budgets and spending in real time. This shifted the city’s culture from static, retrospective reporting to proactive, data-driven management.

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### RAPID PROTOTYPING:

A key performance metric for the team is the “Insight-to-Impact” speed. By using Shiny, they can take a request from a city official on a Monday and have a working dashboard ready for feedback by Wednesday afternoon.