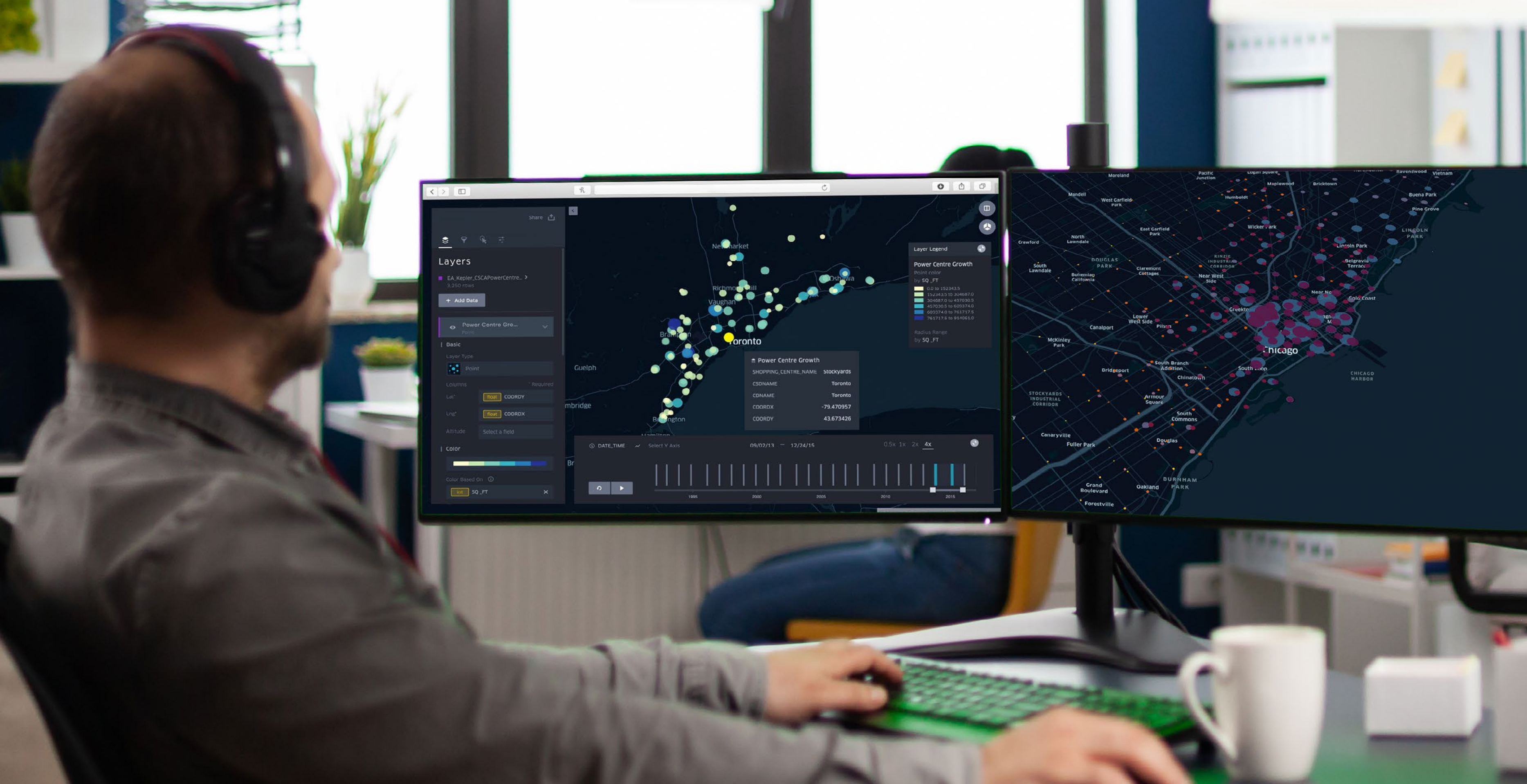


The GIS Debate

The Battle for Ultimate
Supremacy in Geospatial
Technology

August 2023



Introduction

Is GIS dead yet?

That's the question that has been circulating within the geospatial community for some time. Esri, with its renowned ArcGIS platform, remains a formidable force in the GIS industry, continuously evolving. However, what we witness today is an undeniable shift in the landscape of geospatial technology, characterised by the remarkable ascent of Open Source GIS software.

This e-book delves into the captivating clash between Esri and Open Source GIS contenders. We'll unravel their strengths, weaknesses, and the profound transformation in geospatial data usage. Join us as we dissect the future of GIS and explore the implications, challenges, and opportunities in this ever-evolving realm.

So, fasten your seatbelts folks, equip yourself with a cup of coffee, and let the mapping adventure begin!

01

Understanding GIS

Before diving into the realm of Open Source and Commercial GIS, let's get acquainted with GIS itself. GIS, short for Geographic Information Systems, is the powerful fusion of geography, data, and technology. It allows us to capture, manage, analyse, and present spatial data on digital maps, enabling informed decision-making across various fields.

“Maps help us understand the world and our place in it. GIS takes it a step further, enabling us to analyze, interpret, and solve real-world problems.”

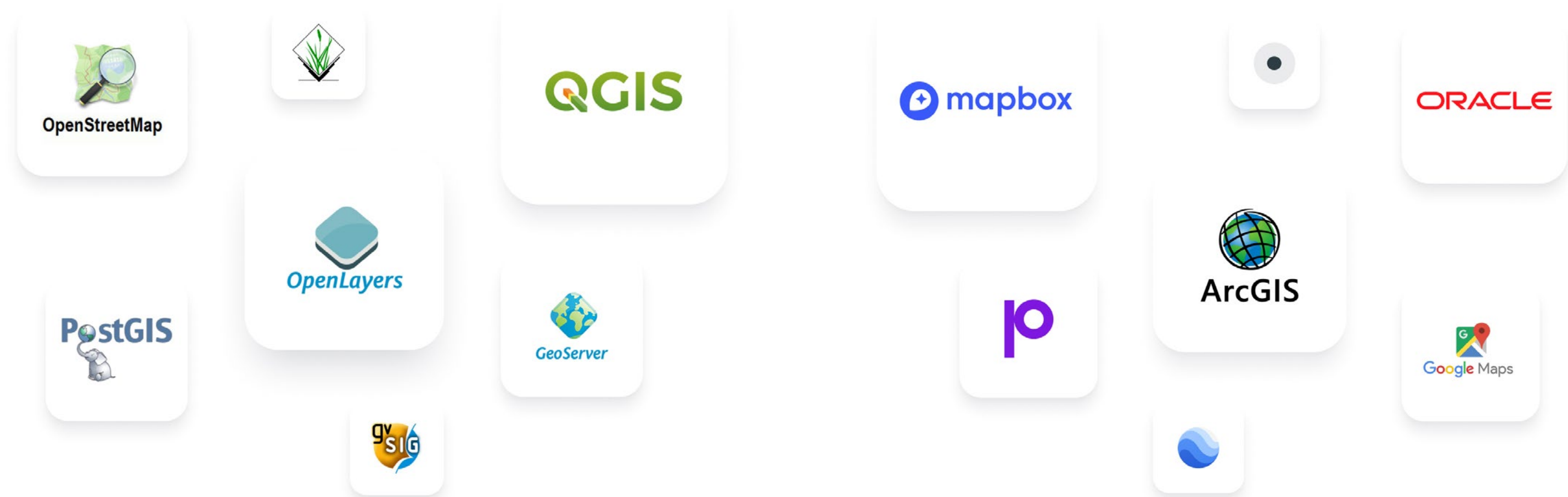
Dr. Roger F. Tomlinson, Father of GIS

GIS is a versatile tool embraced by a wide range of organisations across various industries. Government agencies employ GIS for urban planning, disaster management, and resource allocation. Environmental organisations utilise GIS to monitor ecosystems, track wildlife, and manage conservation efforts. Businesses leverage GIS for location-based marketing, supply chain optimisation, and market analysis. Additionally, industries like transportation, agriculture, and healthcare rely on GIS to enhance efficiency and decision-making processes.

From the public sector to private enterprises, GIS proves indispensable in unlocking valuable insights from geographic data for informed and strategic actions.

02

Unveiling the Contenders



Open Source GIS

Open Source GIS is akin to a welcoming neighbourhood restaurant, generously sharing its secret recipes with everyone. This software approach fosters collaboration, transparency, and community-driven development, making it an empowering choice for geospatial enthusiasts.

Embracing the spirit of open sharing, some popular Open Source GIS tools include QGIS, PostGIS, GeoServer, OpenStreetMap and MapLibre, each contributing to a thriving ecosystem of geospatial innovation. Whether you're a mapping enthusiast or a professional in the field, Open Source GIS invites you to savour the freedom of exploration and the joy of collective progress.

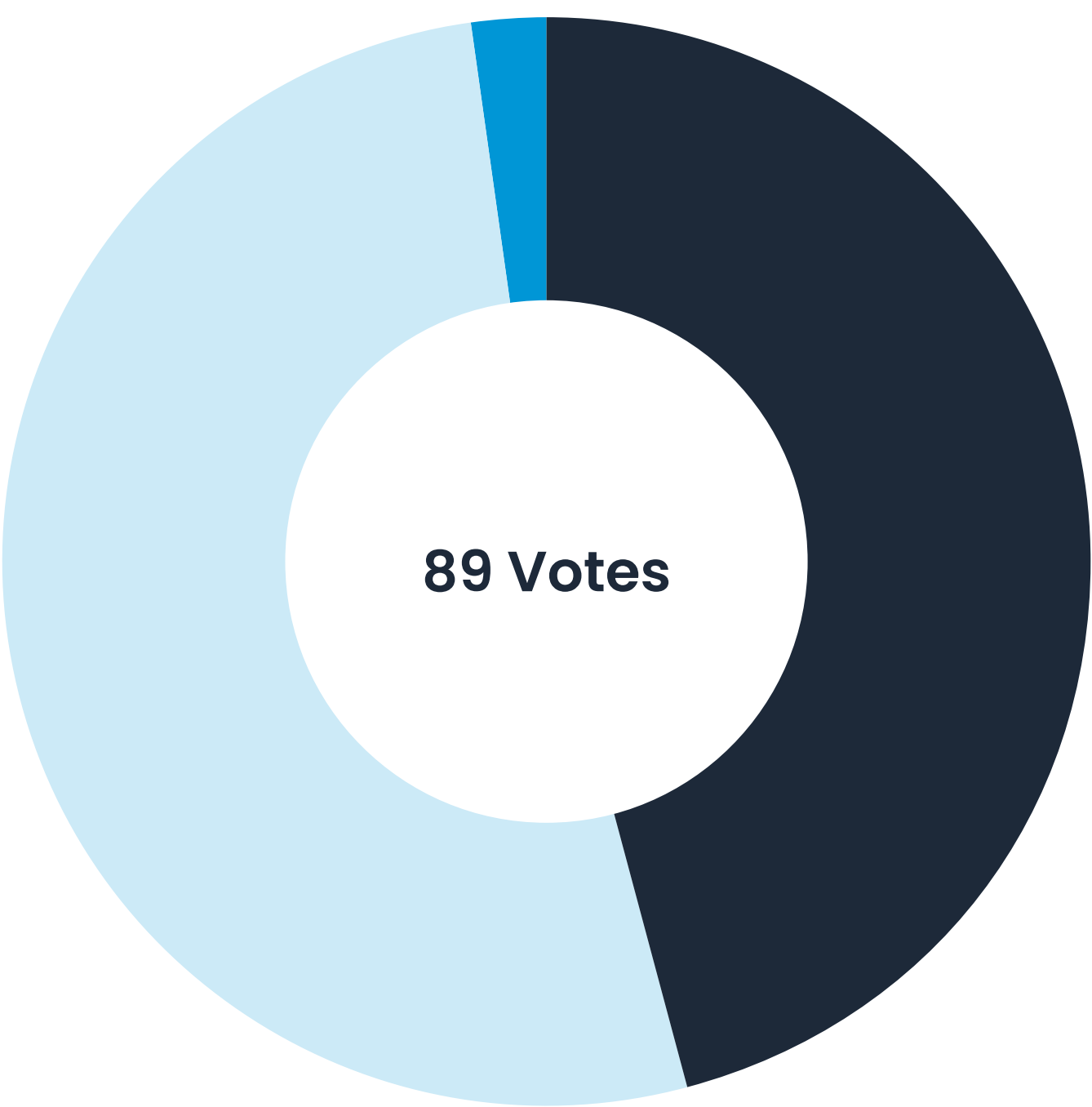
Commercial GIS

Commercial GIS mirrors a well-established fine-dining restaurant, boasting an extensive and refined menu of solutions. Developed and offered by reputable companies like Esri (ArcGIS), Precisely (MapInfo), Safe Software (FME), Mapbox, Carto, and others, these GIS solutions provide a premium (and pricey?) experience.

With comprehensive support, advanced features, and a substantial user base, Commercial GIS caters to the needs of geospatial professionals seeking company-supported tools. Like an elegant culinary experience, these solutions deliver finesse and reliability, making them a preferred choice for organisations seeking robust and advanced geospatial capabilities.

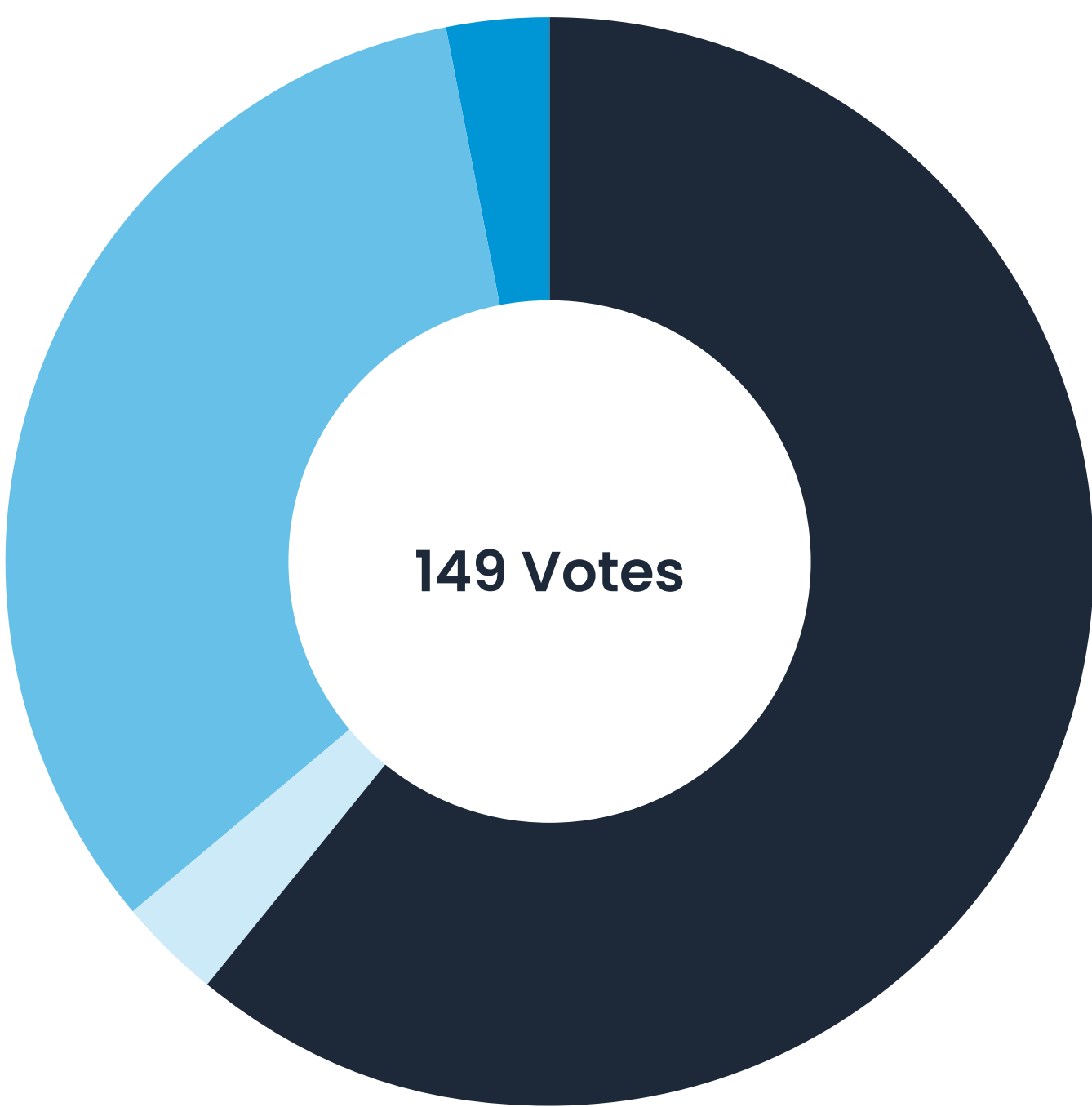
Surveying the Landscape

Let’s take a look at the insights from the surveys and see how people have voted for their GIS preferences.



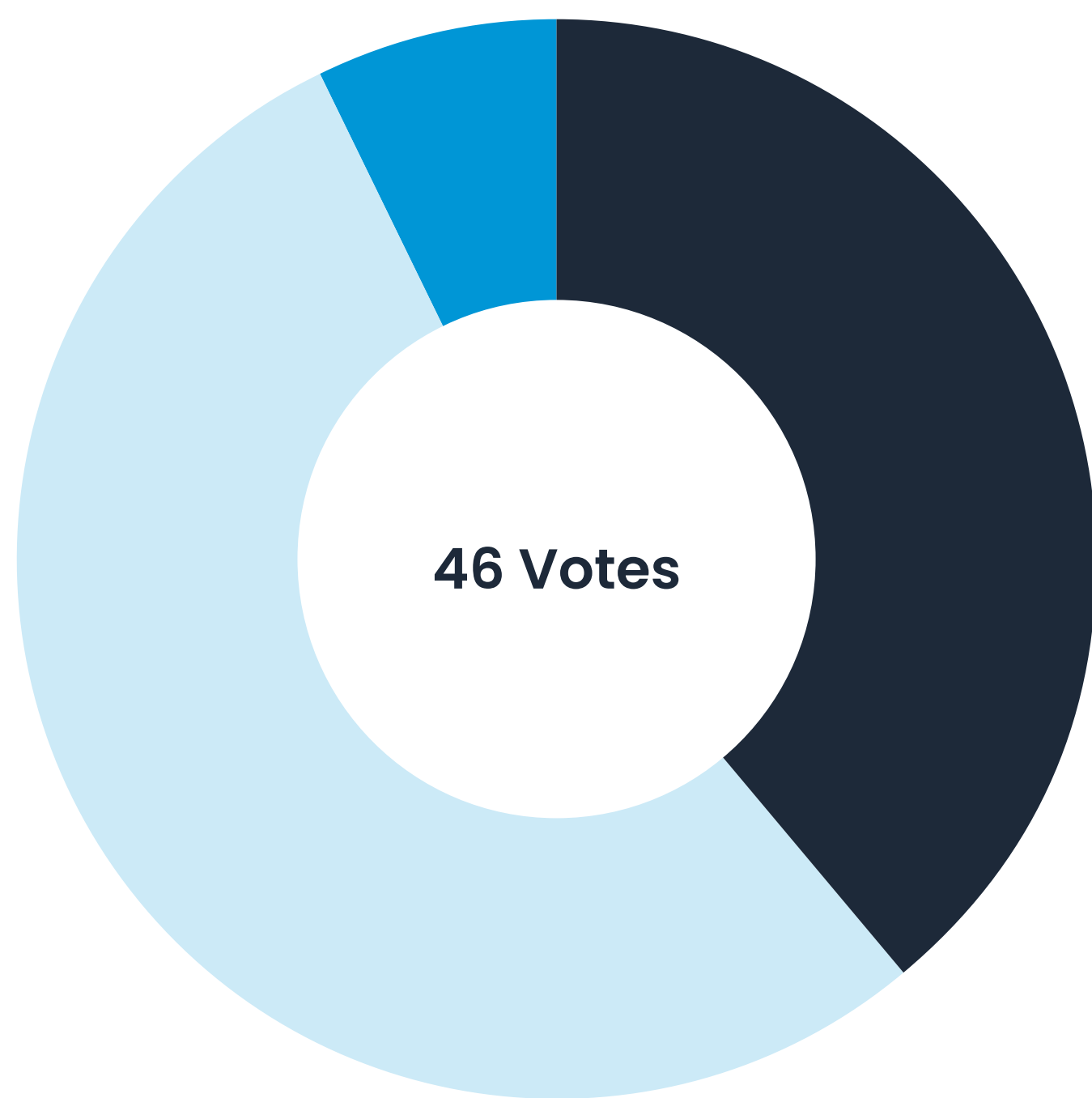
Which types of GIS do you use the most?

- Open Source GIS - 46%
- Commercial GIS - 52%
- What is GIS - 2%

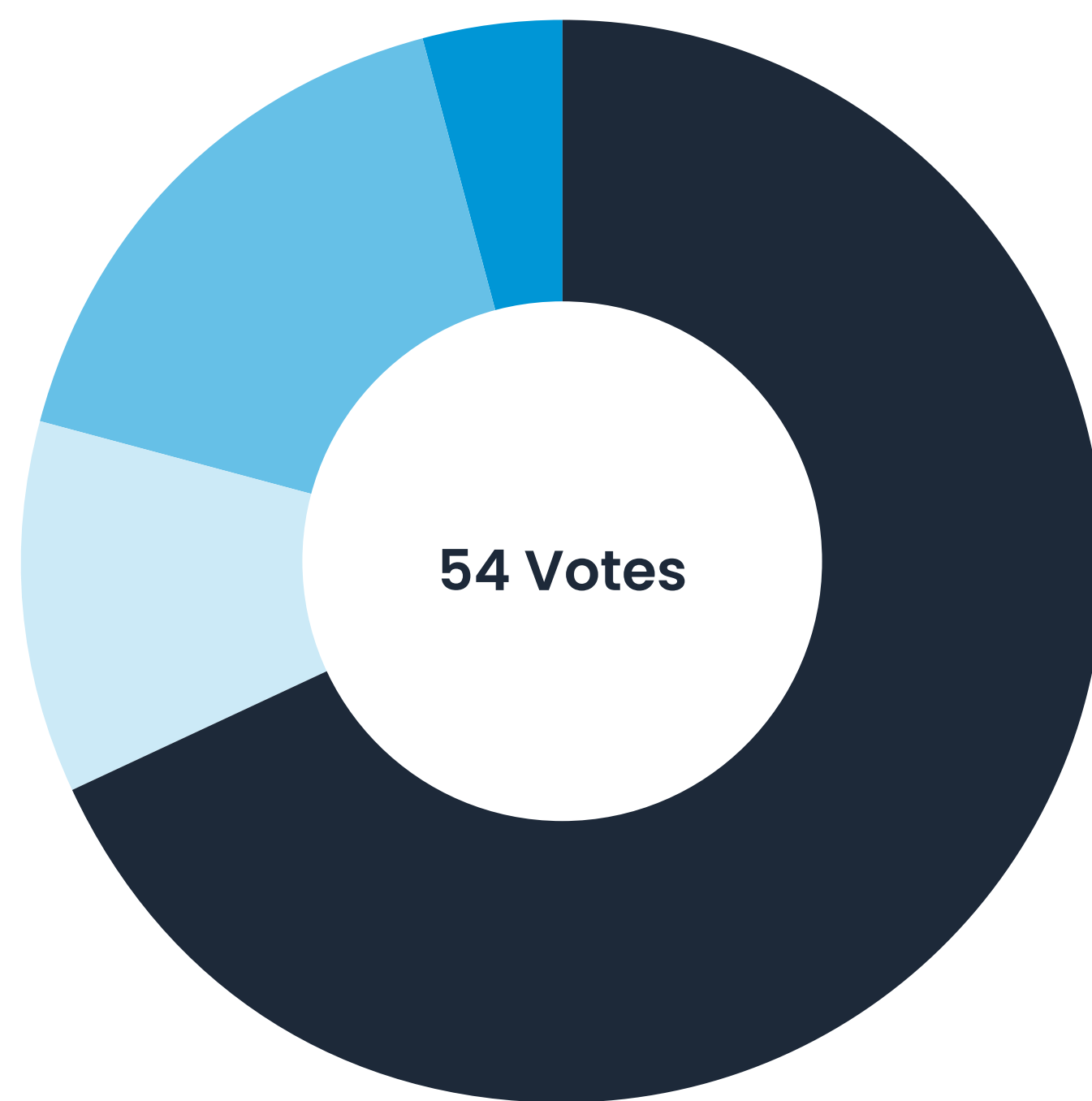
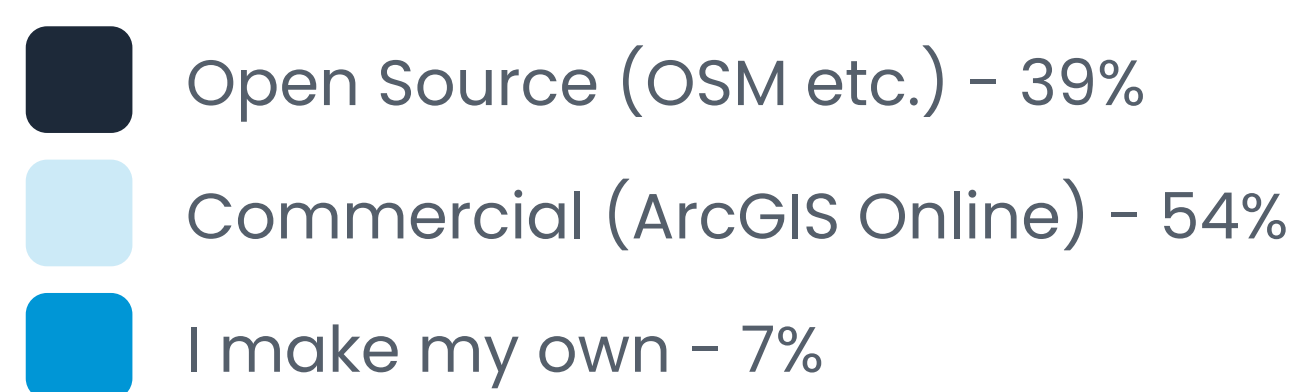


Which desktop GIS client do you prefer for your GIS work?

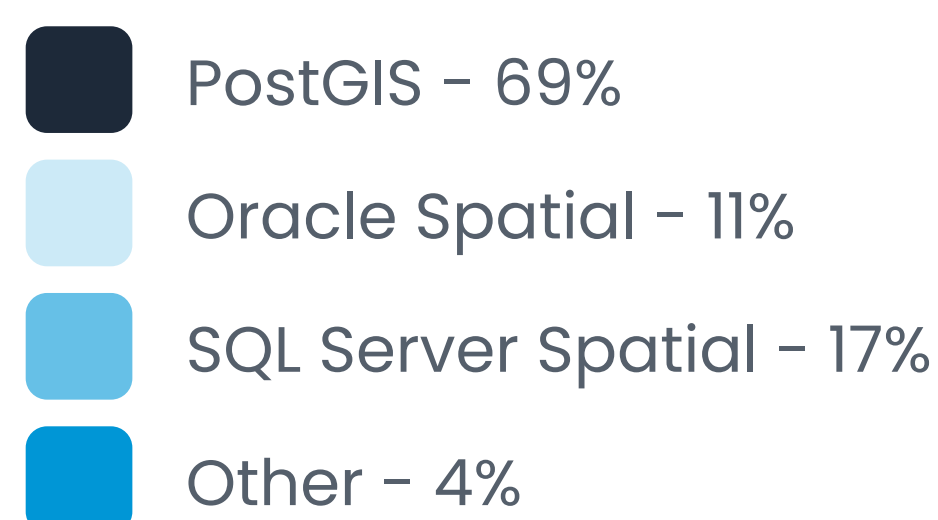
- ArcGIS Pro - 46%
- MapInfo - 3%
- QGIS - 33%
- Other - 3%



Which type of GIS web server technology do you prefer for your mapping projects?

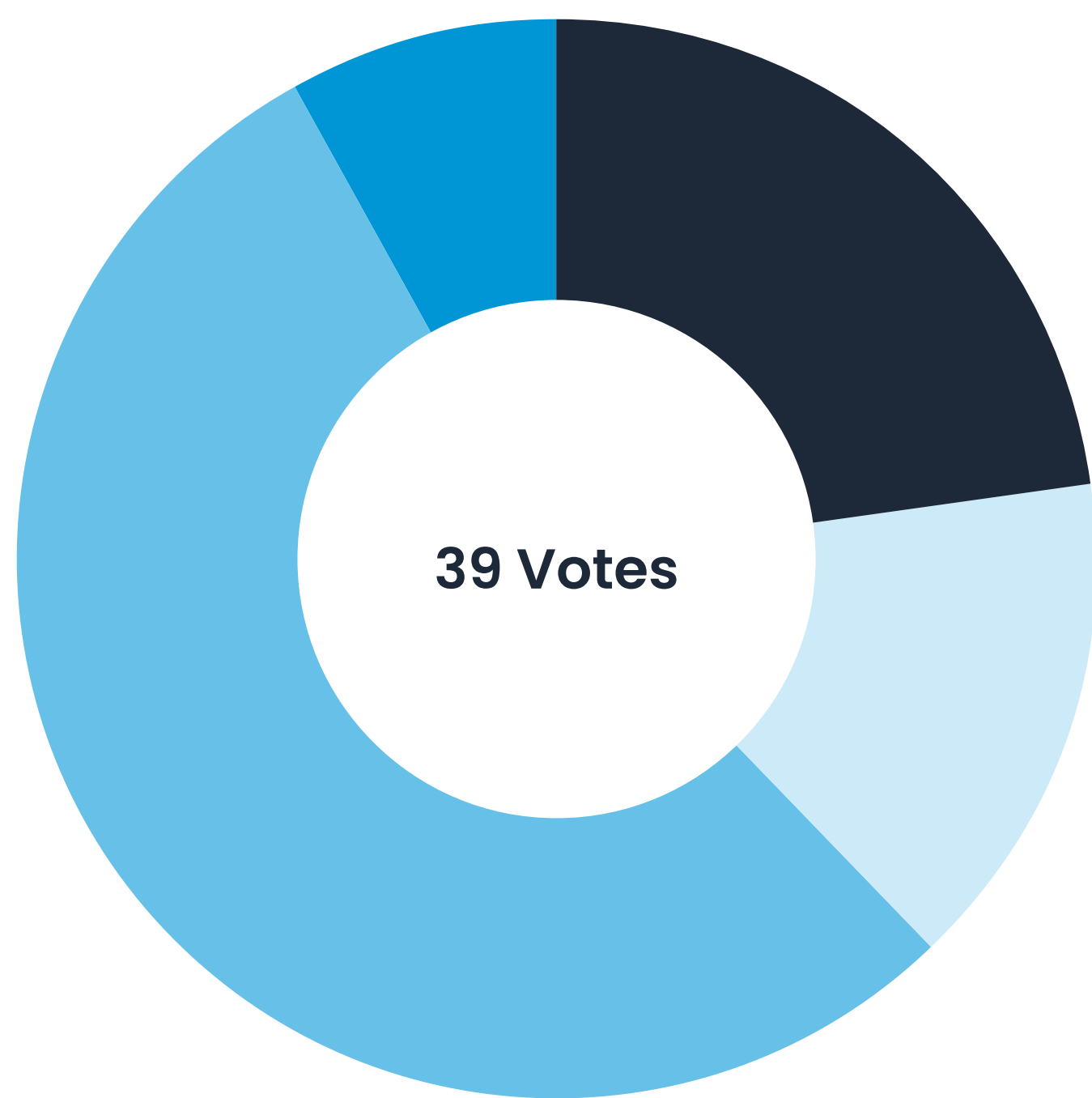


Which geospatial database do you prefer for storing and analysing spatial data?







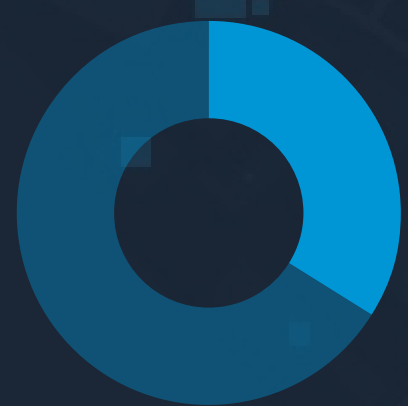
“Geography is the science of places and spaces. The insights it gives us into the world help us better understand our own place in it.”

Michael Palin



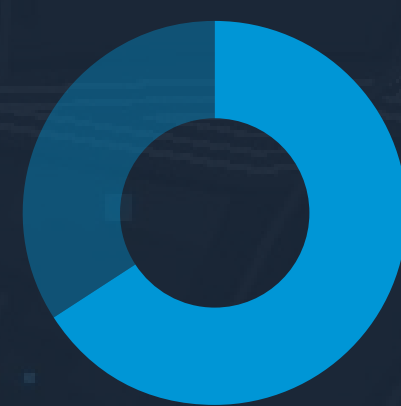
Which of the following applications is your favorite LiDAR point cloud client application?

-  QGIS (Open Source) - 23%
-  Global Mapper (Commercial) - 15%
-  ArcGIS Pro (Commercial) - 54%
-  LASTools (Open Source) - 8%



34%

**Average preference
for Open Source GIS**



66%

**Average preference
for Commercial GIS**

04

Open Source GIS: Underdog with a Punch

Open Source GIS embodies a collaborative and transparent geospatial technology, built on open standards. Embracing community-driven development, it fosters freedom and innovation within a welcoming environment. The following summary lays the foundation for a profound exploration of Open Source GIS's pros and cons, illuminating the path to informed decision-making.

Advantages



Cost

Open Source GIS software is usually free to use, making it a favourite among budget-conscious users.



Customisation

Its open nature allows developers to tailor the software to specific needs, enhancing flexibility.



Community Support

The vast user community contributes to continuous improvement and rapid bug fixes.



No Vendor Lock-in

Users are not tied to a single vendor and can switch between software without major repercussions.

Limitations



Learning Curve

While user-friendly, some Open Source GIS software may require a steeper learning curve for beginners.



Limited Advanced Features

Some specialised functionalities available in commercial solutions may not be present or may be less refined.



Support Options

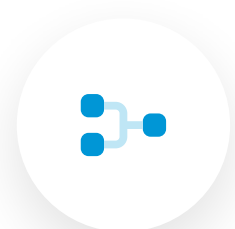
Though community support is robust, commercial solutions often offer dedicated customer support.

05

Commercial GIS: Feature-rich but costly

Commercial GIS software embodies a resilient and feature-rich proprietary geospatial solution, crafted by reputable and well-known companies. With its comprehensive support and advanced features, it caters adeptly to the diverse needs of geospatial professionals. The following summary opens the door to a more profound exploration of the advantages and disadvantages of Commercial GIS.

Advantages



Advanced Features

Commercial GIS often boasts advanced tools and functionalities for complex spatial analysis.



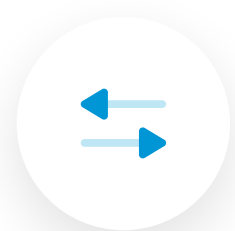
Stability & Reliability

These solutions are thoroughly tested, ensuring stability and reliability in critical applications.



Customer Support

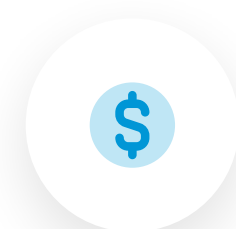
Companies provide timely support, valuable resources, and frequent updates.



Integrations

Commercial GIS can seamlessly integrate with other business software, streamlining workflows.

Limitations



Cost

The primary drawback is the cost associated with commercial solutions, including licensing and maintenance fees.



Vendor Lock-in

Users may become reliant on a specific vendor's ecosystem, making switching challenging.



Less Flexibility

Customisation options might be limited due to proprietary restrictions.

06

The Middle Ground: Hybrid Solutions

In the pursuit of the optimal GIS solution, a hybrid approach often emerges as the ultimate blend. Many organisations embrace this strategy, harnessing the power of both Open Source and Commercial GIS in unison. This harmonious fusion enables them to harness the strengths of each while mitigating their respective weaknesses.

Leveraging open standards, investing in staff training, and conducting regular architecture reviews become the cornerstones to construct and uphold a thriving, cost-effective GIS environment. By embracing these practices, organisations pave the way for seamless interoperability, empowered teams, and sustainable geospatial success.



Conclusion

So, back to the question from the start of this e-book: Is proprietary GIS dead yet? The resounding answer is a definite NO. As the GIS market continues to expand, it offers space for both commercial and open source GIS offerings to coexist harmoniously. In this vibrant landscape, the question arises: Which option reigns supreme? The spirited debate between Open Source and Commercial GIS persists, demanding careful consideration of specific needs, budget, and future growth.

Open Source GIS stands out with its affordability, community support, and customisation possibilities, making it an enticing choice. On the other hand, Commercial GIS showcases advanced features, reliability, and robust customer support. Our market intelligence asserts that the hybrid solution takes the lead, a stance reaffirmed by recent industry engagements. Embracing the best of both worlds empowers organisations, cultivating a powerful and cost-effective GIS environment for sustainable geospatial success.

“GIS is not just for experts; it’s for everyone who cares about understanding the world and making a difference.”

Allen Carroll, Former Chief Cartographer at National Geographic Society

Mapping with purpose

Schedule a time to speak to our team of spatial experts about your project goals.



Global headquarters

Unit 3 / 27 Commercial Road
Newstead, QLD 4006
Australia

Phone

Email