

Standing on the Shoulders of Giants

Jo Cook | Astun Technology

Speaker notes

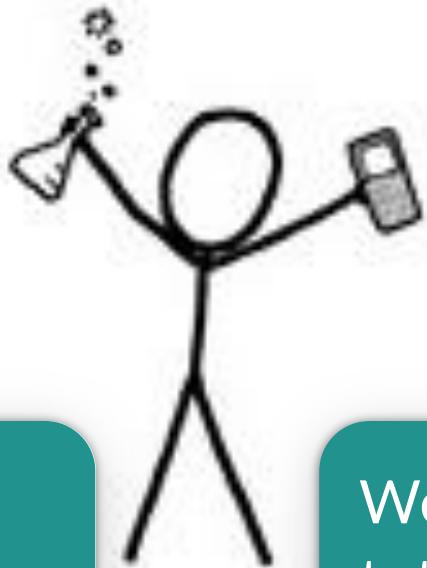
I'm Jo, I'm the Data Discoverability Lead at Astun Technology, and in this talk I'm going to be exploring synergies between open source technologies, open standards, and FAIR principles in geospatial solutions. While my focus is on open source, a lot of what I'm talking about is equally applicable to proprietary software.

(syn.er.gy)

"The interaction or cooperation of two or more organizations, substances, or other agents to produce a combined effect greater than the sum of their separate effects."

Dates from the mid 17th century (denoting cooperation): from modern Latin synergia cooperation, from Greek sunergia, from sunergos, meaning 'working together'

STAND BACK



In preparation for this talk,
we conducted a survey on
opinions about open source
and open standards.

We had 70 respondents in
total. Thanks to everyone
that participated!

SCIENCE



Open Source and Open Standards

FAIR Principles

Real Life Examples

Benefits for Organisations

Benefits for the Wider Community

Why Re-inventing the Wheel is bad

Open Source: development through community collaboration

Diverse Contributions

Rapid Evolution

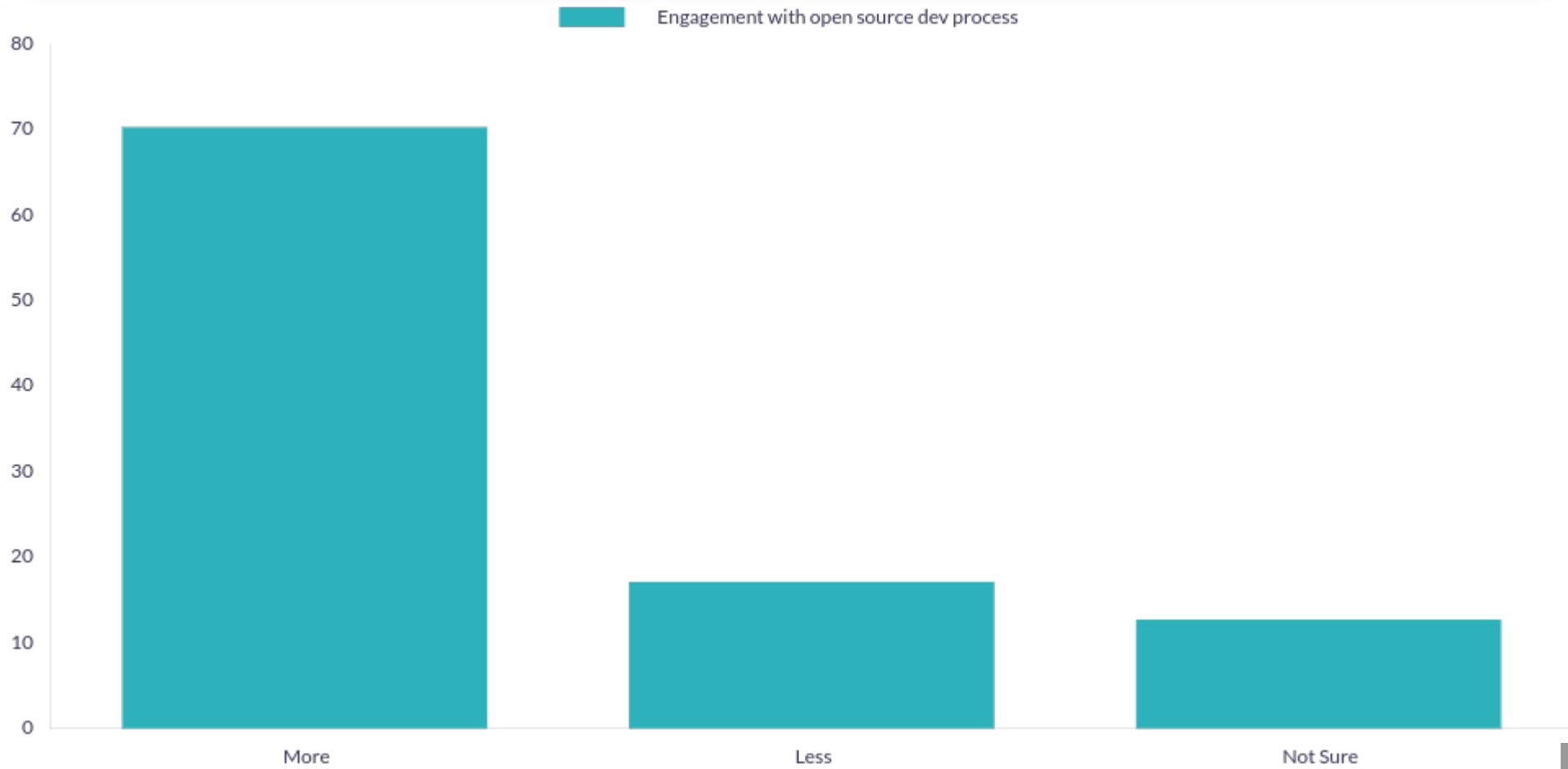
Community Support

Cost-Efficiency

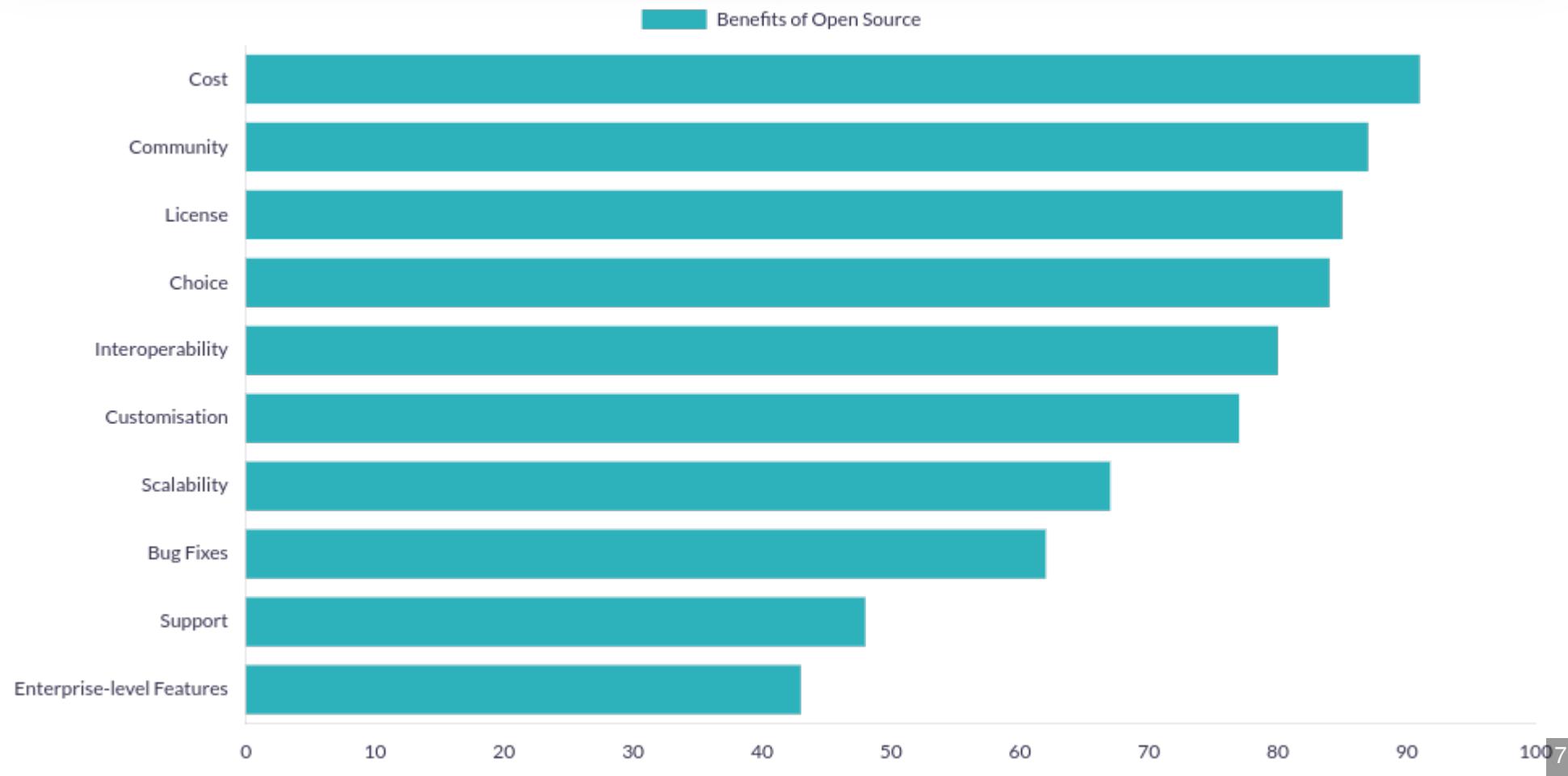
Speaker notes

The power of open source in geospatial data and software is that it enables diverse contributions, rapid evolution, community support and cost-efficiency, reducing development costs and accelerating the delivery of solutions. We're tapping into a vast reservoir of collective knowledge, expertise and creativity from developers around the globe. Successful open source projects such as PostGIS, QGIS and Geoserver have matured into Enterprise-grade products through community collaboration.

From our survey respondents



From our survey respondents



Open Standards: Seamless communication



Shared Language

Sustainability and Relevance

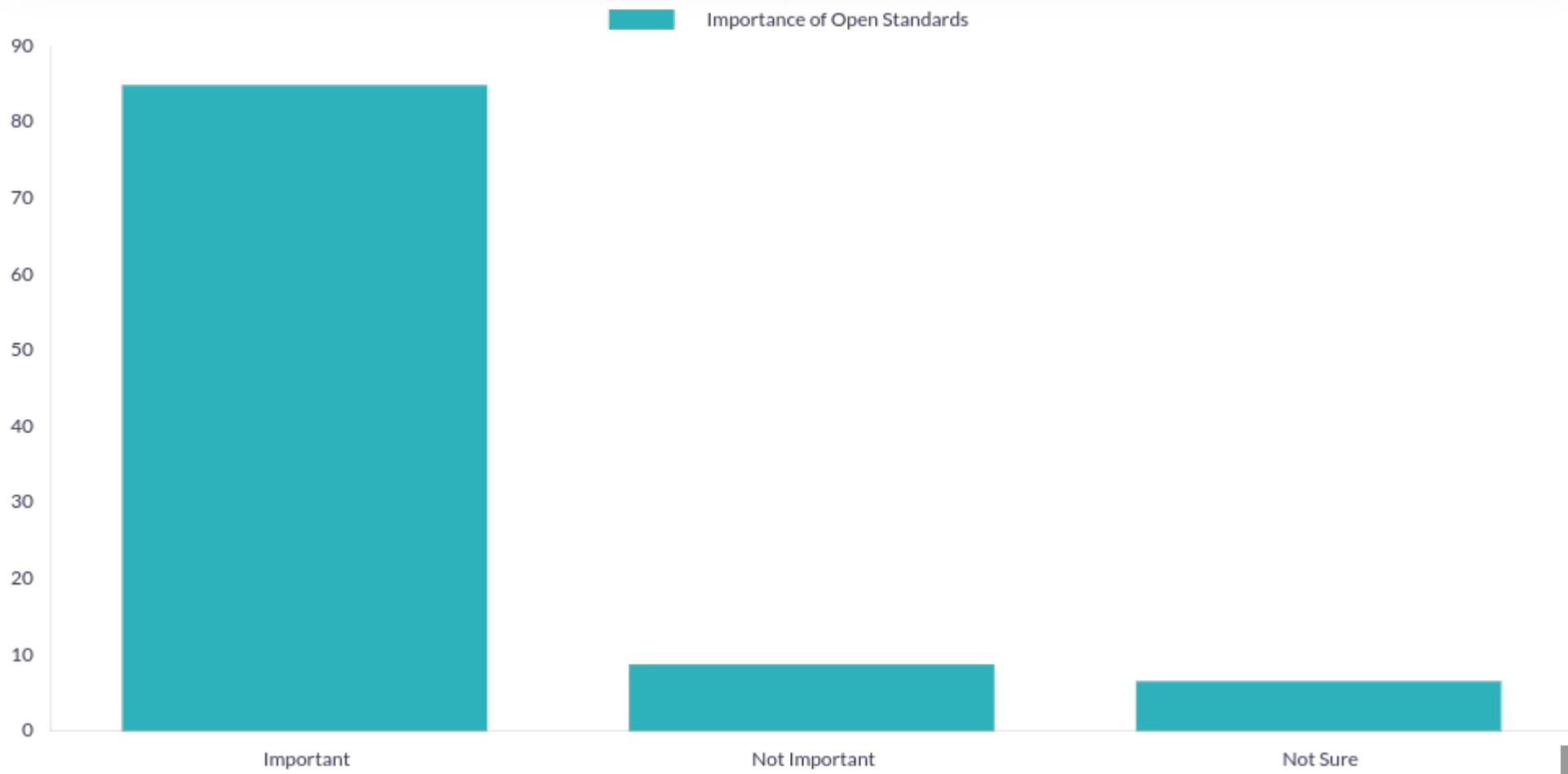
Collaborative Development

Adapt to Changing Needs

Speaker notes

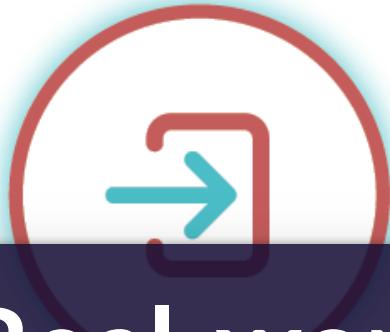
Open Standards are vital in the geospatial industry, providing a shared language for data and applications, enabling seamless communication between different systems and organisations. Open standards ensure sustainability and relevance over time- collaborative development and maintenance means they are more likely to adapt to technological developments and changing needs. It's hard to imagine geospatial software these days that doesn't use OGC standards such as WFS and WMS.

From our survey respondents

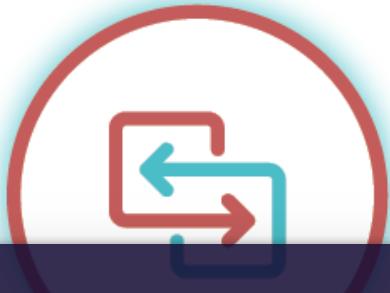




FINDABLE



ACCESSIBLE



INTEROPERABLE



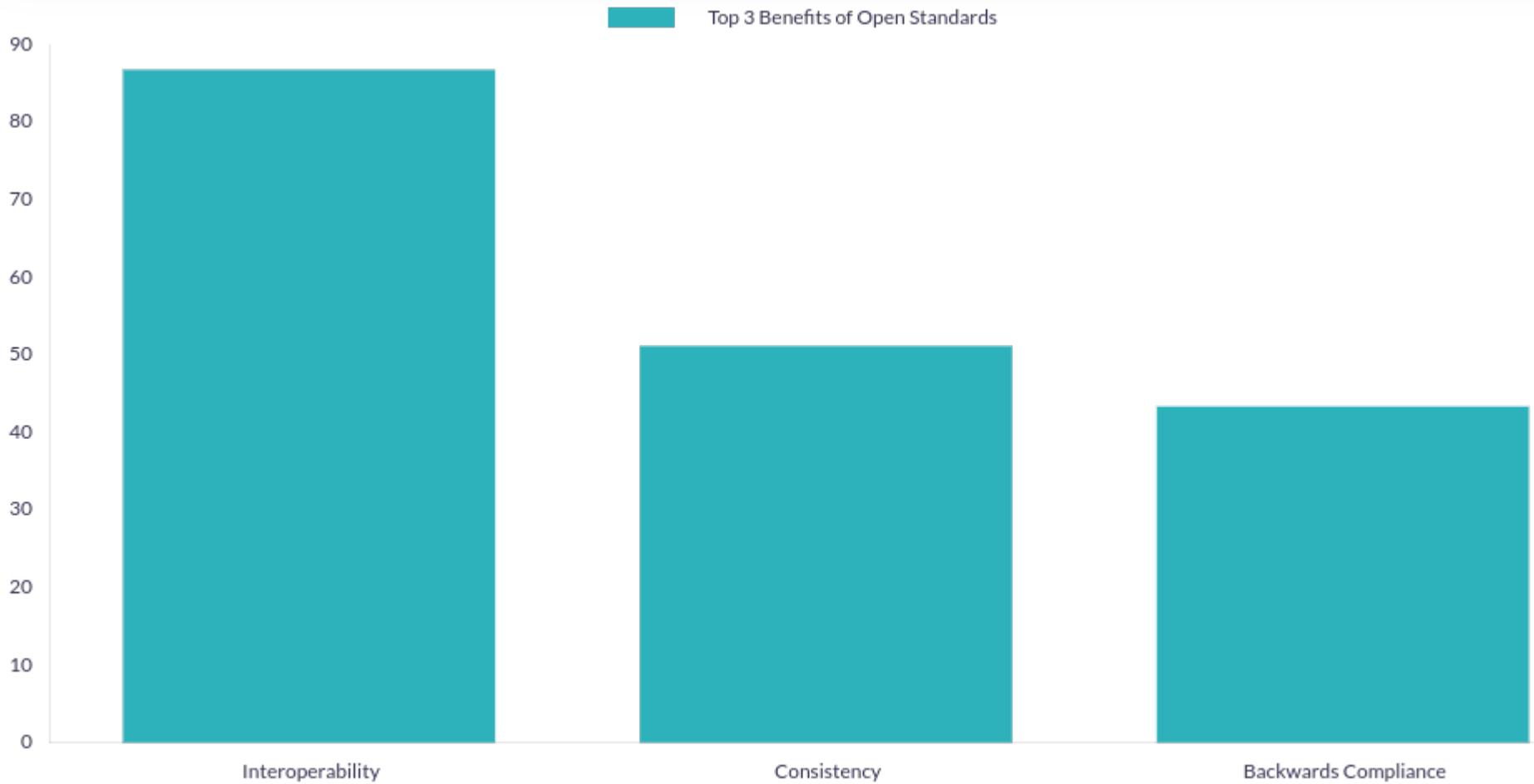
REUSABLE

Real-world benefits

Speaker notes

The principles of FAIR (Findability, Accessibility, Interoperability and Reusability) take the advantages of open source and open standards and convert them into real-world benefits. There's not a lot of point in doing the work to produce data and insights if no one can find it, understand and interpret it, or use it, and perhaps re-use it later. My area of Data Discoverability is all about enabling this- using standards-compliant metadata as the cornerstone of FAIR data.

From our survey respondents



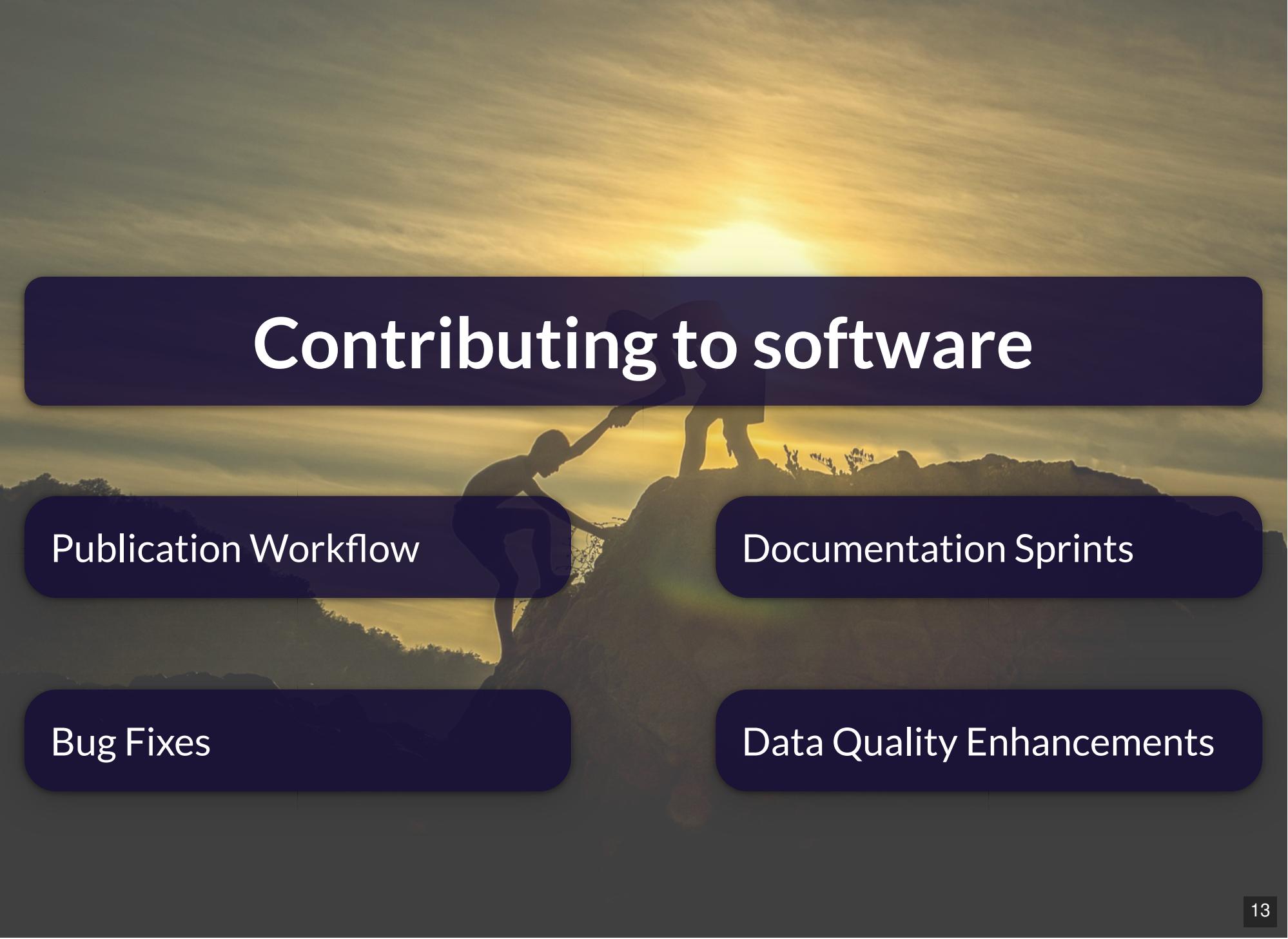
Astun's Data Disoverability Work

Metadata and Data Management based on open source and open standards

Speaker notes

We provide metadata catalogues based on GeoNetwork Open Source for organisations ranging from local authorities, to Scottish Government, Ordnance Survey, and Natural Resources Wales. We support a range of metadata standards, but tend to advocate for using UK Gemini as it's recommended by Government and is interoperable with many other standards such as INSPIRE because it's based on a long-established international standard (ISO19139). We can also be agile and respond quickly to emerging best practice such as the Government-mandated use of DCAT

Contributing to software

A silhouette of two people climbing a rocky mountain peak against a vibrant sunset sky. One person is reaching up to help the other, symbolizing collaboration and contribution.

Publication Workflow

Documentation Sprints

Bug Fixes

Data Quality Enhancements

Speaker notes

Astun alone have contributed to a number of fixes and enhancements to GeoNetwork. These include improvements to the publication workflow in GeoNetwork and improvements to the display of INSPIRE conformity. We've also been involved in code and documentation sprints. With Scottish Government we've contributed some bug fixes, and better documentation, and have made it much easier to record data quality. Not only can we feed these improvements to all of our customers, but anyone in the UK that uses GeoNetwork can also benefit from them. Of course we also benefit from enhancements made by developers all over the world!

A photograph showing a group of hands held together in a circle, symbolizing teamwork or collaboration. The hands belong to different people, including men and women, and are set against a backdrop of green grass.

Contributing to standards

Gemini

Medin

Speaker notes

The benefit of an open and accessible standard is that you can talk to the people responsible. Our metadata work has resulted in additional elements in UK Gemini that make it easier to use, and recently our work with Natural Resources Wales has led to validation improvements in Medin. We feed these enhancements back to all our customers and make them available openly on GitHub for anyone to use. I'm also on the Gemini Working Group and we've recently moved our development process to GitHub to make it even more open and accessible.

From our survey respondents

"Interoperability is key for long-term sustainability"

A close-up photograph of a person's hands working on a wooden wheel, likely a bicycle wheel, using a tool like a spoke wrench. The hands are weathered and the wood is light-colored.

Re-inventing the Wheel

Friends don't let friends do it

It's a waste of time and
money

It stops you benefiting from
other people's expertise

It stops other people
benefiting from yours

Speaker notes

Building from scratch when you could iterate on something that already exists is not an efficient use of time or resources, and prevents you from benefiting from other people's expertise. It's also the antithesis of Steven Ramage's point earlier about human interoperability. I've sat through multiple presentations over the last few years in which some very bright people described what was in effect a metadata catalogue. Last week I saw a blog post from a government department that I won't name, where they re-invented a data warehouse and a web GIS. If all of these very bright people had brought their skills to bear improving existing solutions, how much better would that have been for everyone?

👉 [https://www.gov.uk/government/publications/
uk-geospatial-data-standards-register](https://www.gov.uk/government/publications/uk-geospatial-data-standards-register)

Thank you for listening 🙏

