

## Interview 7

Interviewee	07-Esri-E
Interviewer	Ashraf Shaharudin (TU Delft)
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### Interviewer

So my first question to you is could you please describe what [Esri distributor in country E] does? Is there any major difference between what [Esri distributor in country E] does with what other Esri offices do? <redacted>.

### Interviewee

Well, I think essentially no, we are mainly an ArcGIS distributor for [country E], <redacted>. So we are a distributor and then we are a consultancy house focusing on ArcGIS software.

### Interviewer

Could you please describe your role in [Esri distributor in country E]?

### Interviewee

Sure, I am a <redacted>. I focus on helping our customers with multiple different problems, but my specialty is data. So, not only open data, but all kinds of data and how customers use them in the most efficient way in their own organizations. So how do they distribute data and to get the most out of it, both their own data and their publicly available open data.

### Interviewer

So you work both with data providers and data users?

### Interviewee

Yes, yes.

### Interviewer

OK. And how long have you been working in this or a similar role?

### Interviewee

I've been in [Esri distributor in country E] since I think it's, a little bit more than <redacted> years. But I've been in a role where I've worked with open data since <redacted>. So <redacted> years now.

### Interviewer

And previously, what sort of role do you play with regard to open data before [Esri distributor in country E]?

### Interviewee

Yeah. So I've worked in <redacted>, where we used a lot of open data and created a lot of open data for the people to use. And before that, I worked in <redacted>, where we collected a lot of open data from <redacted> [country E] and then we publish them available for all people to view. So on multiple different sides of this open data.

### Interviewer

OK. And you did mention that in [Esri distributor in country E], you don't only work with open data, but also data in general. But is there any particular cases that you work solely with open data? For example do you ever have to work with open data providers specifically or open data users specifically?

**Interviewee**

Yes. So we do work with open data providers. We have our own product where we redistribute the open data so we do work with all data providers, collecting their data and then redistributing them to our users. But as a paid service. So at this point it's not open. Well, data is open, but our service is paid.

**Interviewer**

Is this Living Atlas?

**Interviewee**

It's not living Atlas, it's our own product called <redacted>.

**Interviewer**

And this is only for [country E]?

**Interviewee**

This is only for [country E]. Yeah, yeah, for now.

**Interviewer**

OK, now I'm going to move to talking about open data services provided by [Esri distributor in country E]. Could you please describe the open data services offered by [Esri distributor in country E], including who are the services for?

**Interviewee**

Yeah. So we have two main distribution of open data. We have the Living Atlas as you mentioned, which is not unique to [Esri distributor in country E], it's all over the globe, all distributors, and just regular user of ArcGIS can put the data in this Living Atlas of the World. And then there's some curators that make sure the data has a certain standard and certain update frequencies and metadata for everybody to use. So that's one of them.

And the other one is similar, but more focused on [country E], which is ArcGIS Online service called [Esri distributor in country E] <redacted>, which is essentially a group in ArcGIS Online which is available to everybody where we redistribute some of the services that other distributors have on their website, but we collect them and put them in ArcGIS Online where you can see all of the different data in one place.

**Interviewer**

OK. And what is the difference between the ArcGIS Online service [Esri distributor in country E] <redacted> and the one that you provided in the Living Atlas?

**Interviewee**

The one in the Living Atlas is a little bit more scarce in [country E] because we have this other alternative. So it's more fulfilling, the [Esri distributor in country E] open data.

**Interviewer**

OK. Well, what about if other users were located outside [country E]? Do they still can they use ArcGIS Online service [Esri distributor in country E] <redacted>?

**Interviewee**

Yeah, yeah. It's publicly available to everybody.

**Interviewer**

OK, it's just not connected with Living Atlas?

**Interviewee**

Yeah, exactly. Yeah, it's not connected with Living Atlas. So you have to search for -- you have to be a part of the group in ArcGIS Online. But that's open to everybody. So you have to find the group first and then you can find the data.

**Interviewer**

And how do you think the open data services provided by [Esri distributor in country E] benefit users?

**Interviewee**

So in [country E] we have a lot of open data available from a lot of different distributors, a lot of governmental distributors. The problem with that is that everybody is kind of doing it in their own way and it's distributed across a lot of different platforms. So what we do is we collect them all. And so you only have to go into that ArcGIS Online or you only have to go into our service and then you get access to all the data, right. And regarding who the service is for, was that also the question?

**Interviewer**

Yes.

**Interviewee**

I believe our services is more towards the non enterprise and not very technical people. So not that the people using it is not very technical but what we're doing is not rocket science. Everybody can go in and grab the service from the data provider and put it in the GIS system. So we are more offering a compact solution which is easy to use and a quick to use. It's more for the people that need that data as a tool in their further work, they don't wanna spend too much time finding the data.

**Interviewer**

OK, but as long as they have ArcGIS account?

**Interviewee**

Yes.

**Interviewer**

Yes, OK. What are the main activities that [Esri distributor in country E] has to carry out to offer this open data services?

**Interviewee**

Well, first of all, we have to stay on top of the data that is available and also understanding what the users need, what is relevant to them, what's not relevant. And then as I mentioned before, they're using a lot of different standards and different data models. Some of them are using standards and some of them are using less standards some other ways. So what we have to do is understand these different types of data and how they're distributed in order to put them in the ArcGIS Online or the Living Atlas.

**Interviewer**

OK. And so far, do you only put data that is available for the whole country or for example, if there's only data from the <redacted>, do you also provide only that in your platform? I'm asking because for example <redacted>, what they say is that they would only put the data that they can get for the whole country. So in case, for example, only <redacted> has that data, they wouldn't put that in their platform. So is that the same case with [Esri distributor in country E]?

**Interviewee**

I well, yeah, I think so. It's the same case but not because we don't wanna put a municipality data in, but for example, <redacted> has a very, very large GIS team and they already provide a lot of data in their own platform, which is really fulfilling. So if you want special data for just <redacted> and the <redacted> area, you will go to that site anyways. But if you want data for different parts of the country or more as a whole, this service would be more easily accessible.

**Interviewer**

OK, but you do not have like a general sort of like guideline that it has to be the whole country?

**Interviewee**

No, we don't have that. It's more based on the user needs. If the users are requesting a lot of data for <redacted> and maybe some of other municipalities, we'll look into it, of course. Yeah. But we haven't received those requests yet.

**Interviewer**

OK, I see. Since when has [Esri distributor in country E] been offering open data services?

**Interviewee**

Since before my time actually. I believe it's been <redacted> we're starting this open data.

**Interviewer**

OK. And how many staff are involved in the open data services in [Esri distributor in country E]?

**Interviewee**

I think -- I wrote in my notes here between <redacted>. A little bit different how you count. And it's not full time. I mean, we're not doing this full time. But between <redacted>, some of them are more technical and have the data distributors' views and they know how they work. And some of them are more user focused, they know what the users want and what we can provide to them. And then we also have a project leader involved with more of the coordination work.

**Interviewer**

Yeah, OK. But all of the <redacted> are technical people?

**Interviewee**

Without the project leader, yes. Technical people.

**Interviewer**

Yes, OK. And usually -- so the <redacted> people that you mentioned, are they parked in a certain team like a <redacted>?

**Interviewee**

So <redacted>. I'm in <redacted> and the other one or two are in our <redacted>.

**Interviewer**

OK, so it's scattered across different departments instead of like one team?

**Interviewee**

Yes.

**Interviewer**

What do you think is the value of open data to society from the point of view of [Esri distributor in country E]?

**Interviewee**

In general, I think it provides a lot of innovation. So data is a tool for many people and for most people. Not a lot of people like myself, I enjoy working with data and geeking out about it, but for most people it's just the tool. They need the data to provide -- to do the analysis or do their work or whatever it is. And with this data you can skip this hard step of finding the data, making sure it's correct and verifying and all that. Then you can go straight into the work. And so I think we will see a lot more innovation in this field with open data. And also in the case of optimizing, let's say governmental work because a lot of the people of the country can go in and see their open data online very fast, so don't need to call somebody or to find the same information, to access information.

**Interviewer**

And what are the benefits of offering open data services to [Esri distributor in country E] itself? For example, are there more people subscribing to ArcGIS software because of open data service?

**Interviewee**

Yes, I think that's the main one. As Esri distributor, we want as many people using our software as possible and without data, our software is nothing. So we need to provide the data as well to have people feel enticed about the software and also to keep people in the software. So if our competitors start offering data packages people might wanna change their GIS system. Well, not just because of that, but it could be a point of selling. So that's why we provided as well.

**Interviewer**

And what are the costs of offering open data services to [Esri distributor in country E] financially or others? Maybe resources?

**Interviewee**

Yeah, well, one thing is resources. Most definitely you need the people that have spent time understanding the data, understanding what data is provided, what is needed and how to get them and redistribute it. But also financially, there are some hosting fees involved. And you have to -- yeah on the resource side as well, you have to be aware of the distributors change the data, change the schemas, change something. And then we have some resources in regards to user informant. We need to inform the users when there's changes or what data is available.

**Interviewer**

Yeah, regarding hosting, so [Esri distributor in country E] has to bear the cost of server for the open data or is it subsidized by the Esri in the US?

**Interviewee**

And I think we are starting to open that discussion to have a more different way of hosting them, cost wise. I think <redacted> will be able to answer that one as well. But for now we are hosting it.

**Interviewer**

And then you also mentioned about feedback from users or understanding users needs. So is there any like a formal channel where users can let [Esri distributor in country E] know that they want this sort of data or it's more of like a personal connection?

**Interviewee**

I think it's more of a personal connection. There isn't -- they can always call us and the GIS community in [country E] is very small. So I think everybody knows everybody and I would guess it's

the same in the Netherlands. So there's a central point of ArcGIS users and that is [Esri distributor in country E]. So I think they will just call us, talk to somebody in the company to help them out.

**Interviewer**

I think you probably have mentioned this a bit, but do you have any other challenges in offering open data services apart from you mentioned about server and also the resources?

**Interviewee**

Some challenges. I think at some point and we have had this discussion internally, we have to do some cost benefit analysis. What is the cost of having this open data and providing this free? Because it is a lot of work and gathering all the data, cleaning it and publishing it. And at what point do we start charging money for it, not the data but the service itself. Because people need it and people want it, they want to pay for it because all the organizations in [country E] and the globe probably use this data. Instead of having one or two people allocated to just getting the data and cleaning it, make sure they have the right one, we can centralize it and then they can just start using the data, they can save that resource and focus on their primary tasks. So the challenge is for us to find that balance [between] what data we provide for free or we distribute and what should we charge as paid service.

**Interviewer**

What about the quality or the format of the data that you get from data providers? Do you face challenges with regard to that as well?

**Interviewee**

Yeah, there is a lot of varying quality. Some well -- mostly it's fine. I would say mostly is fine quality. We don't mess with the data, we just distribute it. So we don't wanna be data owners. In case there's something wrong with the data, we are just redirect it to somebody. But yeah, there's some quality issues, for example, multiple geometry types in one feature class, so you have points and polygons and all that in the same one. And you have sometimes invalid geometries or invalid field types. So there's still some data cleaning on our part, but we prefer not to touch the data.

**Interviewer**

Yeah. And are there issues with data standards, for example, in a certain industry where different providers have different standards?

**Interviewee**

Yes, there's a lot of problems with standards and because unfortunately the standards are not standard, they are open to interpretation. And then sometimes they are interpreted differently, especially on the data provider side and Esri side. This causes a problem on how Esri or ArcGIS systems reads the services or the standards compared to how the data distributor reads the standard and distributes that data based on that. So we have a lot of challenges with that in [country E] in general.

**Interviewer**

Are there certain industries that quite mature and do have the standards and other industries are quite laggard in terms of standards?

**Interviewee**

So most open data in in [country E] are provided by government or different levels of government at least, and they are -- and we also have a department that focuses on data distribution, the

<redacted>. And so because it's more centralized they are the experts in it and it at the most of the data comes up in that in the same standard, right, more or less.

**Interviewer**

Yeah. OK. And who are the key open data actors that [Esri distributor in country E] engage with?

**Interviewee**

It is that one, <redacted>, and all the other data departments, government departments. And what else? We also have some smaller ones like some nature databases and some geological survey databases, but mostly governmental.

**Interviewer**

OK. And governments do they include municipalities as well?

**Interviewee**

Yes, yes.

**Interviewer**

Do you have any example of projects or cases where [Esri distributor in country E] open data services demonstrated impacts?

**Interviewee**

Impacts in what regards?

**Interviewer**

Well, however you want to interpret it. So it could be like in terms of the monetary return for that particular business or you can say in terms of social impacts where your services have been used by certain organizations that has social impacts.

**Interviewee**

And I'm not sure I can come on the case of the open data services, but I can provide one for the paid data services if you want. We provide this paid service where we collect all the data and we host it. We Esri-fied it. So we change it to the Esri files user based and then we provide these multiple feature classes and databases to our customers with all the new daily data. We have seen a lot of our customers having more time left on their hands. So for example if you are GIS team of two people, it will be a one person's full time job previously just to get the data and make sure all your workers in that organization have the right data available for that work. We do see that they save a lot of time on resources where they just get the data from us. I think that's the biggest one. Time saving and resource management.

**Interviewer**

Yeah. Are there, for example data providers that you have provided consultancy service or other type of service that then allow them to publish open data?

**Interviewee**

So we tried to consult or give advice where we can to the data providers. Some of them are more open to having our view on it and some are less open to it. I think we recently talked to the, to the <redacted>. Previously they had a tendency to just change the schemas of data provided like adding columns to deleting columns, rewrite and rename columns, and this is a big problem because a lot of our systems and our customer systems are depending on these schemas staying the same. Or at least they should warn us that in two months we will change something. Yeah, that's how it's normally done. But they had a lot of tendencies to just change it and then see what happens. So we

did provide some consultancy in regards to data governance and how you should -- I mean your data is important, a lot of people using it -- how should you act with the services you provide.

**Interviewer**

So now I'm moving to talking about [Esri distributor in country E] in the open data ecosystem. Do you think [Esri distributor in country E] plays a role in enhancing access, supply, or flow of open data?

**Interviewee**

Yeah, I do believe so, especially in the Esri world. [country E] has a large open source community and an open source GIS community. The same hasn't always been there for the ArcGIS world. But we are now taking -- we have taken that role and providing this data and the flow of data, as you mentioned, to our customers, especially because we have so much data available in [country E] and sometimes you can't find out where it's coming from and who's the provider because some providers will redistribute other providers data. It's quite messy. It's amazing that all this data available, but it's so much that we get confused sometimes. So with us a gathering all and centering it in one place, we can enhance the flow and we can enhance the supply of data for our customers.

**Interviewer**

Yeah, I forgot to ask you -- for example, if the data that you have cleaned up and then you provided it in the Living Atlas for example, are they mark as, for example, authorized data or something like that so people can trust the authority?

**Interviewee**

Yes, exactly. And I think they will also be marked with Living Atlas of the World. Another mark.

**Interviewer**

OK, alright. Do you think [Esri distributor in country E] plays a role in connecting other actors in the open data ecosystem?

**Interviewee**

So an actor would be a distributor or a user as well?

**Interviewer**

So, for example, do [Esri distributor in country E] help facilitate the interaction between data providers and end users for example? Not only to your platform, your online platform, but also can be through events or conferences that you have something like that.

**Interviewee**

All right. Yeah. I think we do facilitate the other way around. We do facilitate from the end users to the data providers because a lot of the end users, especially the ArcGIS users will contact us if they have problems with gathering or access to the data. And after a few calls from different customers, we will start to look into it: is there a problem with the data provider side or how could we enhance this. So we are having some dialogue with the provider based on how users feedback and our own experience as well.

**Interviewer**

Do open data providers ever need to pay to obtain data or services from [Esri distributor in country E] that are developed based on the providers' open data?

**Interviewee**

Yeah, they do. Yes, I guess they do. And the service they're getting is that we are maintaining all of

the data, the structural data, we're gathering it and we're cleaning it up so that's the service they pay for.

**Interviewer**

Yeah. So in a way that they are paying for the service. So for the value added service?

**Interviewee**

Yeah, they're not paying for the data, but yeah, exactly. For the convenience, I would say.

**Interviewer**

Do you have any suggestions or wishes of how [Esri distributor in country E] way of doing things or business model could or should be changed? Is there anything that could be better for example?

**Interviewee**

I think we will at some point start -- so right now we are providing -- the service providing is the non open data one is file-based because a lot of [country D] customers want their data in house, they don't want it in the cloud or centralized somewhere because they either can't or don't want to use those services based on the law and rules. I think we will move into a space where we are more service provider, data service provider, and not data file providers at some point. This I think will be beneficial both on a technical level because it's you need less hardware on each customer's organization, also on the environmental level you can have less server space that everybody uses it instead of having one centralized location of the servers. And I think it's hard because in [country E] there are so many data providers already and we already are large step ahead of some other countries. So I think a lot of people doing some good stuff in the open data world already.

**Interviewer**

Yeah. So I would like to seek for clarification. So what you meant is that so right now most of these data providers, they host the data themselves?

**Interviewee**

And yes, both the data providers and the end users. Well, the enterprise level end users, yeah.

**Interviewer**

Ah, OK, so where [Esri distributor in country E] comes in is actually to manage the data in their server?

**Interviewee**

Yeah. Well, this is the paid service. They open data service is hosted by us or in the ArcGIS Online and that is service based. But at least all infrastructure companies and a lot of municipalities, they want or need their data in house. They can't work on service based data at all. So what we do is we collect the data from the service data providers, package it, and then sell it or send it to the end user. The end user will then host it on their own equipment and in their own organization.

**Interviewer**

OK, so that's the current status. So moving forward, how do you want to change it?

**Interviewee**

Moving forward, I see a world where there is a market where we could again take it from the data providers, centralized it and host it on our servers and then everybody would pull from our servers.

**Interviewer**

Ah, OK. But that would also imply more costs to you as well?

**Interviewee**

Yes, that will apply higher service cost and more resources allocated to keep it the service up.

**Interviewer**

But how do you think that would be beneficial then to [Esri distributor in country E]?

**Interviewee**

I think we could establish ourselves as a larger player on the open data market because the <redacted> have the data distributor service but it's just not fulfilling the needs of all the technical people and all the GIS people. So we could go in and fulfill that need that they haven't done.

**Interviewer**

OK, alright.

**Interviewer**

Do you have any suggestions or wishes of how other actors could or should do to improve the current open data ecosystem? So in other words, do you have any wish list from the open data ecosystem from the point of view of [Esri distributor in country E]?

**Interviewee**

Standards. Standards would be amazing. And standards that aren't up to interpretation. I know a lot of people are using the OGC standard, which is great, but we should also maybe -- I think when data providers are doing the testing and providing the services, they do a lot of test in-house if it works but they forget to test something out of house with the clients and all that. I think we should be better to engage in those tests and make sure it works for us and for the ArcGIS platform, because then it will work for all our customers as well. Yeah, standards would be great. And a centralized hub, so you don't have to look into 25 websites and a million different services.

**Interviewer**

Yeah. And since you also come from <redacted> before [Esri distributor in country E], so I wonder how INSPIRE -- does it help to create a better standards? Is it helpful at all?

**Interviewee**

Which part, sorry.

**Interviewer**

The INSPIRE legislation. Do you think that that the legislation is useful in shaping the direction of standards, or do you think, for example, it overspecified certain things, making it more complicated? What is your general perception about INSPIRE, especially with regard to standards?

**Interviewee**

Oh, the INSPIRE one. Yeah, I haven't worked too much on INSPIRE. I had a lot of colleagues when I was in the <redacted> that worked on the INSPIRE project, so I don't know too much about it. I think it's amazing that we have the Inspire project on EU level. And in [country E] terms, it it's nothing new. The data provided we already provided in our own page platforms, but it's great that countries with less available data could get -- have this openly data available as well.

**Interviewer**

What do you think about the emergence of open source software and database like QGIS and OpenStreetMap? Does it or should it change the way to [Esri distributor in country E] does things?

**Interviewee**

I think open source software is great. It's amazing. Especially for what it does and what needs it

fulfills because not everybody needs an enterprise-like solution, so open source software is great for fulfilling those niche markets. Does it change the way [Esri distributor in country E] does things? Yes it does, because at some point those small local users that use, for example, QGIS and open source databases, they will move into enterprise-like organizations and if they don't have the experience with ArcGIS or they don't have the knowledge of what ArcGIS does, they could be changing the GIS landscape from within. If they think we don't need our ArcGIS, QGIS is fine, we could start to see some disturbances in that field. So for us it does -- well, how do I put it? -- It's important to be out there notifying people what is ArcGIS, it's not just a desktop software, it's much more. And how can they use it? It's not expensive. And what's the upside compared to open source. But OpenStreetMap and all that community collective data, I think it's amazing. It's great that we have an open community that loves to collect data and provide it for free.

**Interviewer**

Yeah. So would you see -- do you see open source like a QGIS and OpenStreetMap offering something that is different, whereas ArcGIS offering something different, so you have like different market segments in a way, do you think that's the case?

**Interviewee**

Yes and no. Well, at the core of it, it's all GIS. So in that way it's the same. QGIS is offering a desktop solution where we also have the ArcGIS Pro, which is also the substitution, but Esri is much more -- you have the ArcGIS Online, the enterprise solutions, the mobile solutions, the cloud hosted solutions, so it's not comparable like that. With Esri it's a one stop shop, you get everything you need. But if you just need to look at some GIS data and you have no knowledge of what it is, you're not going out to buy a ArcGIS system, you're going to the QGIS first and then going through that way.

**Interviewer**

OK, so that's the end of my questions, but do you have anything that you would like to share with me with regard [Esri distributor in country E] or with regard to open data ecosystem in general? Anything that you would like to share?

**Interviewee**

Yeah. I think with regard to open data, it's great that data is open, but sometimes I feel like when data is open -- well, if you're giving it away for free, you have maybe a list of obligation to maintain it and make sure it has some standard. Not all. Some open data providers are amazing, and they do really great job. But for our customers and for the people that are relying on this open data, it is sometimes hard to rely on something that is maybe not as maintained and maybe not as important in the eyes of the people providing it. So I think this is where the intermediaries like us come in and we make sure that this this gap of governance and maintenance is fulfilled. So we will take the blame if something is not a up to date or something. And I think there's a room for a full-on data provider that provides all data in one stop.

**Interviewer**

Yeah. So basically intermediary is sort of like minimize or mitigate the risk of you know using low quality open data for example. But in a way also intermediaries are reliable -- are quite vulnerable in a sense because the business models relies on the data that is provided by this government.

**Interviewee**

Absolutely. Yeah. So without the data that is openly available, we have nothing to provide.

**Interviewer**

Yeah. So in the case of Esri then it will go back to just selling the software without this added services, right?

**Interviewee**

Yeah, exactly. Yeah.

**Interviewer**

OK, that's all my questions for now. I'm gonna stop recording.