ALICE-RAP Network Evaluation

Second Wave Survey

(Area 7: Work Package 20)

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INTRODUCTION

This document presents the results of the second wave ALICE-RAP Network Evaluation Survey, one of the tasks of WP20. The survey takes into consideration four dimensions of the complex governance of networks: (1) Network Management; (2) Participation in the network (3) Goals and results; (4) Key future factors.

WP20 aims to keep track of the ALICE-RAP network, assess the work and analyze the synergies and potentialities of the network, through three waves of surveys. More specifically, the objective is to acquire an overview of the factors that influence collaborative work in the project from a management point of view, and their relative impact on output. In this respect, the four aims of the survey are: (1) To analyze the structure of the network and how it is managed; (2) To map the evolution of the connections among ALICE-RAP participants during the project; (3) To extract the maximum possible number of latent synergies; (4) To find new channels and spaces for cooperation and joint project development.

After providing some general information on the ALICE-RAP participants, the first part of the document presents the survey's quantitative results and the second part is devoted to the Social Network Analysis of ALICE-RAP Network. Both sections compare the results of this second survey with the first wave survey conducted in 2011. Finally, the document closes with a discussion and draws some general conclusions.

GENERAL INFORMATION

Sample

- Defined universe: 175 people
- Online survey conducted from 5th June 2014 to 1st August 2014.
- Responses: 124
- Response rate: 70.86%

Countries represented among respondents

- Australia: 2
- Austria: 2
- Bulgaria: 1
- Canada: 1
- Denmark: 1
- Finland: 11
- France: 2
- Germany: 6
- Hungary: 1
- Iceland: 1
- Ireland: 1
- Israel: 1
- Italy: 11
- Mexico: 1
- The Netherlands: 10
- Norway: 7
- Poland: 7
- Portugal: 1
- Romania: 1
- Slovenia: 3
- South Africa: 1
- Spain: 19
- Sweden: 2
- Switzerland: 3
- United Kingdom: 23
- United States of America: 3
- Unknown: 2

Age of respondents

- Minimum: 25
- Maximum: 77
- Average: 47.9

Gender of respondents	Absolute number	Percentage (%)
Female	67	54
Male	57	46

Education level	Absolute number	Percentage (%)
Undergraduate degree	7	5.7
Master degree	49	39.5
PhD	68	54.8

Organization respondent's work for	Absolute number	Percentage (%)
Not-for-profit organizations	25	20.2
Private organizations	12	9.7
Public organizations	83	66.9
Unknown	4	3.2

Size of respondent's organizations	Absolute number	Percentage (%)
>1,000	48	38.7
501-1,000	16	13
101-500	21	17
51-100	5	4
21-50	15	12.1
6-20	6	4.8
1-5	12	9.6
Unknown	1	0.8

Work in ALICE-RAP project	Absolute number	Percentage (%)
Undertake research in WPs	71	57.2
Undertake research & coordinate areas or WPs	22	17.7
Participate as part of the Global Science Group	14	11.4
Manage and coordinate	13	10.5
Unknown	4	3.2

Areas Represented	Absolute number	Percentage (%)
Area 1	17	13.7
Area 2	27	21.9
Area 3	14	11.2
Area 4	16	12.9
Area 5	18	14.7
Area 6	9	7.4
Area 7	18	13.7
Global Science group	5	4

Partners involved in your Area	Absolute number	Percentage (%)
4 or fewer	31	25
From 5 to 9	45	36.4
From 10 to 14	23	18.6
From 15 to 19	7	5.6
20 or more	11	8.8
Unknown	7	5.6

SURVEY RESULTS

LEADERSHIP

Leaders of ALICE-RAP	Absolute number	Percentage (%)
Peter Anderson	93	75
Antoni Gual	6	4.8
Others	25	20.2

Leader's most outstanding skills	Average
Experience	8.6/10
Knows how to build a vision	8.3/10
Has capacity to facilitate and connect different participants	7.8/10
Has staff available who can link up with the project	7.8/10
Is a problem solver	7.7/10
Authority	7.4/10
Is a consensus builder	7.4/10
Has a key position for the project in his/her organization	6.9/10

Main tasks of the leader	Absolute number	Percentage (%)
Managerial	51	41
Research content	23	18
Relation with the European Commission	21	16.8
Other	30	24.2

The person most often cited as leader is Peter Anderson. Nonetheless, 20% of the respondents consider other people (normally Area and Work Package leaders) as the leaders of the project. Regarding leader's skills, as in the 1st wave survey, respondents specially value the experience and the capacity to build a vision.

ALICE-RAP PROCESS

Regarding the involvement	Average
Special attention is been paid to the sharing of diverse points of view	3.6/5
Satisfactory attention on involving external parties who with new ideas	3.5/5
Emphasis is placed on starting points and common informational needs	3.5/5
Different opinions have been made visible and included within decision making	3.3/5

Regarding management	Average
The management tries to find common ground between conflicting interests	3.7/5
Time is being spent on communication among the various parties	3.5/5
The leaders of the project take into account existing interpersonal relationships	3.5/5
The leaders of the project consult with the people carrying it out	3.4/5

Regarding the ground rules	Average
This project consciously envisages the possibility of diverting from the plan	3.5/5
Explicit agreements are reached on the organization of cooperation mechanisms	3.5/5
Parties are allowed to abandon the project, if necessary to protect their interests	3/5

As presented above, the management of the project is taking into account the different dimension of network management. Respondents consider that they are sufficiently involved in the network management and that their opinions and points of view are taken into account.

Interaction of the various partners in ALICE-RAP	Average
ALICE-RAP is being managed actively	4/5
The partners assume that the other actors involved have good intentions	4/5
Multiple individuals are involved in managing ALICE-RAP	4/5
I would characterize the environment of my project as complex	4/5
ALICE-RAP champion is visible to the involved partners	3.9/5
Generally speaking, the partners of the project fulfill their agreements	3.6/5
Partners do not use the contributions of the other partners for their own benefit	3.6/5
Partners of the project have mutually given each other the benefit of the doubt	3.5/5
The project is connected to a lot of other projects	3.4/5
The partners of the project have the interests of the other partners in mind	3.3/5
In the environment of ALICE-RAP, there is a lot of criticism of this project	2.7/5

As in the 1st wave survey, respondents consider ALICE-RAP as being managed actively. Moreover, partners assume that other participants have good intention and that multiple individuals are involved in managing the project. In contrast to the 1st wave survey, in this case respondents consider ALICE-RAP as a complex project.

ALICE-RAP TRUST

Trust	Average
Overall degree of trust between the various parties involved	3.7/5
Overall degree of trust between the various parties involved in your Area(s)	3.9/5

Levels of trust in the 1ˢᵗ and the 2ⁿᵈ wave survey:
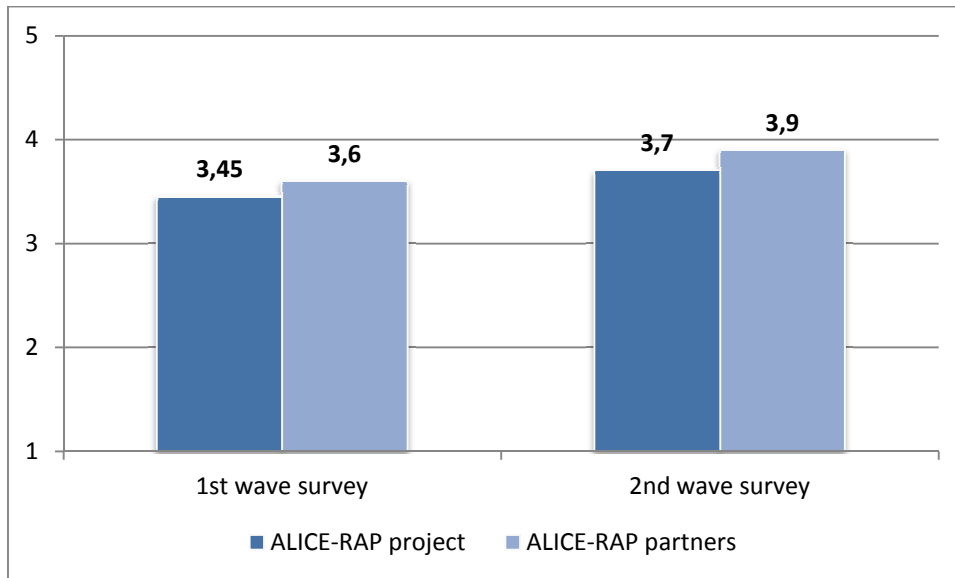
Your contribution to ALICE-RAP
- Has decreased: 13%
- Has not changed: 43%
- Has increased: 37%

Your trust in your ALICE-RAP partners

- Has decreased: 10%
- Has not changed: 62%
- Has increased: 28%

Your trust in ALICE-RAP

- Has decreased: 5%
- Has not changed: 73%
- Has increased: 22%

Regarding trust, the 2ⁿᵈ wave survey presents higher degrees of overall trust either with all the parties and with the colleagues involved in the Area or Work Package of the respondent. As in the 1ˢᵗ wave survey, respondents have higher levels of trust among the participants of their area of involvement than with the overall project. Finally, no significant changes are seen in the evolution of trust since the 1ˢᵗ wave survey.

ALICE-RAP PROGRESS OVER TIME AND RESULTS

Progress over time	Average
Average rate of the products (outputs) you have generated for ALICE-RAP thus far	3.6/5
Average rate of the products (outputs) generated by ALICE-RAP thus far	3.6/5
Average rate of the results and outcomes generated by ALICE-RAP thus far	3.3/5

Compared to the 1st wave survey, the rating of outputs and outcomes has increased significantly. In contrast to the 1st wave survey, the average of outputs and outcomes are significantly above the 2.5, showing that participants value the results positively.

Levels of satisfaction with ALICE-RAP outputs and outcomes in the 1st and 2nd wave survey:
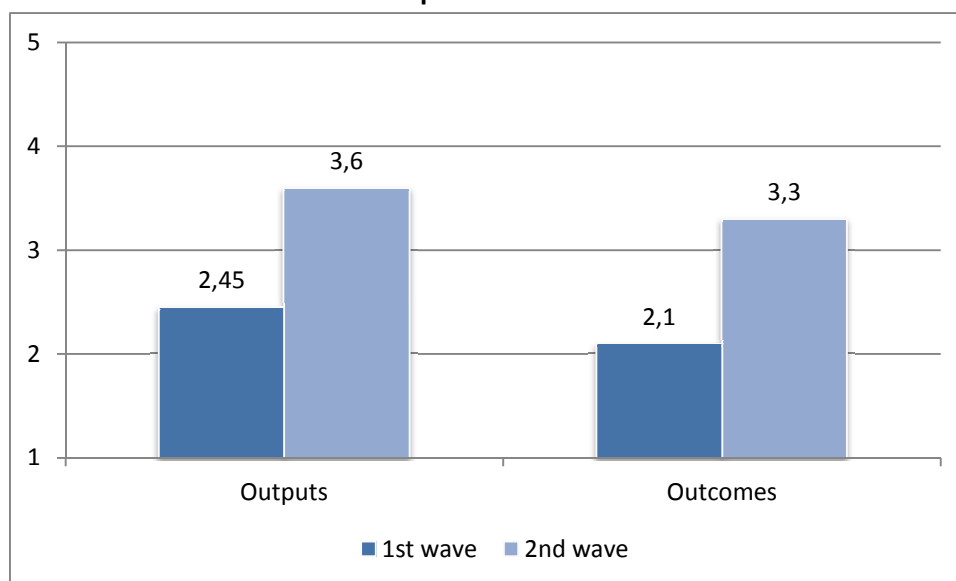
Objectives that have had the most influence on your organization's participation in ALICE-RAP	Average
Creates contacts with other organizations	3.9/5
Facilitates resources	3.4/5
Enhances translational research	3.1/5
Patents and publications	2.9/5
Lobbies translational results into public policies	2.6/5

Objectives that have had the most influence on your organization's participation in ALICE-RAP	1st wave survey	2nd wave survey
Creates contacts with other organizations	1	1 =
Facilitates resources	4	2 ↑
Enhances translational research	5	3 ↑

Patents and publications	2	4 ↓
Lobbies translational results into public policies	3	5 ↓

The objectives that have had the most influence on your participation in ALICE-RAP are	Average
Opening up to interdisciplinary and inter-organizational views	7.2/10
Knowledge transfer	6.8/10
Potential to become involved in future projects	6.2/10
Publications	5.9/10
Funding	5.5/10
Having other views on aspects of certain program	5.3/10
Prestige	4.9/10
Expansion of management skills	4.3/10
Influence / Lobby	3.7/10

The objectives that have had the most influence on your participation in ALICE-RAP are	1st wave survey	2nd wave survey
Opening up to interdisciplinary and inter-organizational views	1	1 =
Knowledge transfer	3	2 ↑
Potential to become involved in future projects	2	3 ↓
Publications	4	4 =
Funding	6	5 ↑
Having other views on aspects of certain program	5	6 ↓
Prestige	8	7 ↑
Expansion of management skills	7	8 ↓
Influence / Lobby	9	9 =

Creating contacts remains the main influential characteristic for participants' organizations to be involved in ALICE-RAP. However, in contrast to the 1st wave survey, facilitating resources and enhancing translational researcher have become more relevant, while publications and lobbying are relegated to the 4th and 5th position. Regarding the objectives that had more influence on respondents' participation in the project, opening up interdisciplinary and inter-organizational research remain being the highly ranked. In the same vein, knowledge transfer, future projects and publications, are among the main individual reasons to be involved in ALICE-RAP.

Main obstacles to success	Average
New priorities	3/5
Financial situation of some partners	2.9/5
Partners conflicting	2.7/5
Changes to political agenda	2.7/5
Changes necessary in the parent organization	2.2/5

Main obstacles to success	1st wave survey	2nd wave survey
New priorities	2	1 ↑
Financial situation of some partners	1	2 ↓
Partners conflicting	3	3 =
Changes to political agenda	4	4 =
Changes necessary in the parent organization	5	5 =

As in 1st wave survey, respondents perceive that the main obstacles to success are: new priorities, financial situation of some partners, and partners conflicting.

Interaction with the outsider organizations to address ALICE-RAP related issues	Average
Academia and think tanks	2.9/5
Governments	2.5/5
Non-profit organizations	2.4/5
Mass media	2.1/5
Business organizations	1.6/5

SOCIAL NETWORK ANALYSIS
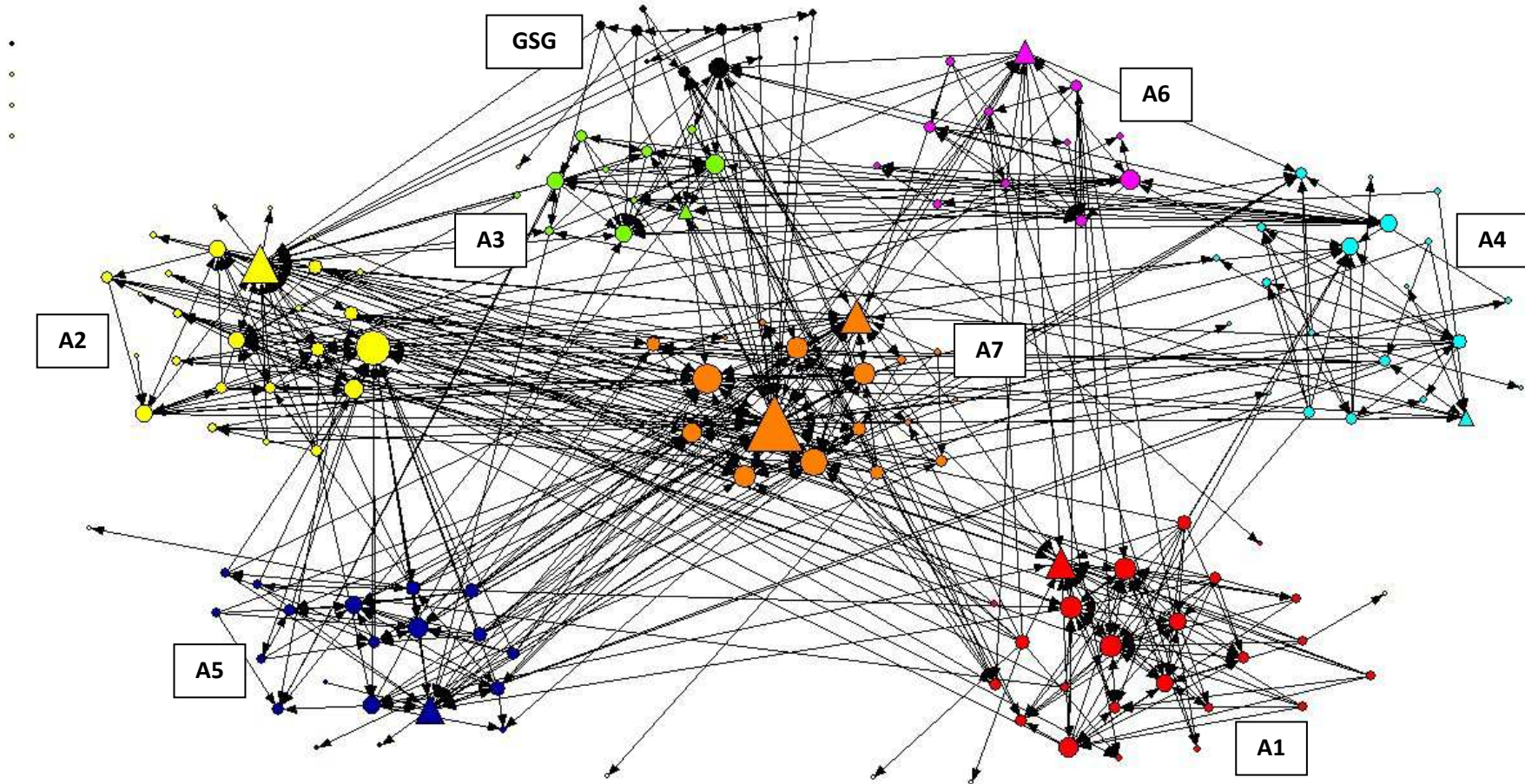
2nd wave survey	2nd wave survey	1st wave survey
Nodes: 154	Network Density: 2.7%	Network Density: 2.1%
△ Area leader	Network Density – Communication: 0.6%	Network Density – Communication: 0.6%
○ Participant	Network Density – Coordination: 0.6%	Network Density – Coordination: 0.6%
Response rate: 70.86%	Network Density – Collaboration: 1.4%	Network Density – Collaboration: 0.9%
	Isolated Participants: 2.6%	Isolated Participants: 4.2%

ALICE-RAP NETWORK

The figure presented in the previous page represents ALICE-RAP network. Although 124 people responded to the survey, the number of participants represented in this network (i.e. nodes) is 154. This mismatch is due the fact that each respondent could refer to 10 individuals. Some of the individuals that have been cited in the network analysis have not responded to the survey.

As can be seen in the graph, ALICE-RAP network is composed of seven Areas which are very well connected among them. Moreover, the black nodes are members of the Global Science Group (GSG); and the white nodes are not formal members of ALICE-RAP.

The size of the nodes represents the number of participants that relates with the individual. The bigger the node, the more central is the participant. As can be seen, at the center of the graph, the leader of the project is the most cited one, and also the one with the highest level of betweenness (for further information on SNA concepts, please see the footnote[1]).

When comparing the networks of the 1st and the 2nd wave survey, we see how the level of network density has increased. In this vein, the network seems to be better connected in 2014 than in 2011. This is specially the case for collaborative relationships. As can be seen in the graph, the density of the collaborative network has increased, while the communication and coordination networks remain as they were in the 1st wave survey. This result indicates that participants in ALICE-RAP consider their interactions as going beyond communication and coordination and perceive this interaction as being a collaborative one.

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[1] **Centrality degree**: Centrality is a measure of how many connections one node has to other nodes. Degree centrality refers to the number of ties a node has to other nodes. Actors who have more ties may have multiple alternative ways and resources to reach goals—and thus be relatively advantaged.
Closeness is a measure of the degree to which an individual is near all other individuals in a network. It is the inverse of the sum of the shortest distances between each node and every other node in the network. Nearness can also be standardized by norming it against the minimum possible nearness for a graph of the same size and connection.
**Betweenness** is a measure of the extent to which a node is connected to other nodes that are not connected to each other. It's a measure of the degree to which a node serves as a bridge. This measure can be calculated in absolute value, as well as in terms of a normed percentage of the maximum possible betweenness that an actor or node could have had.
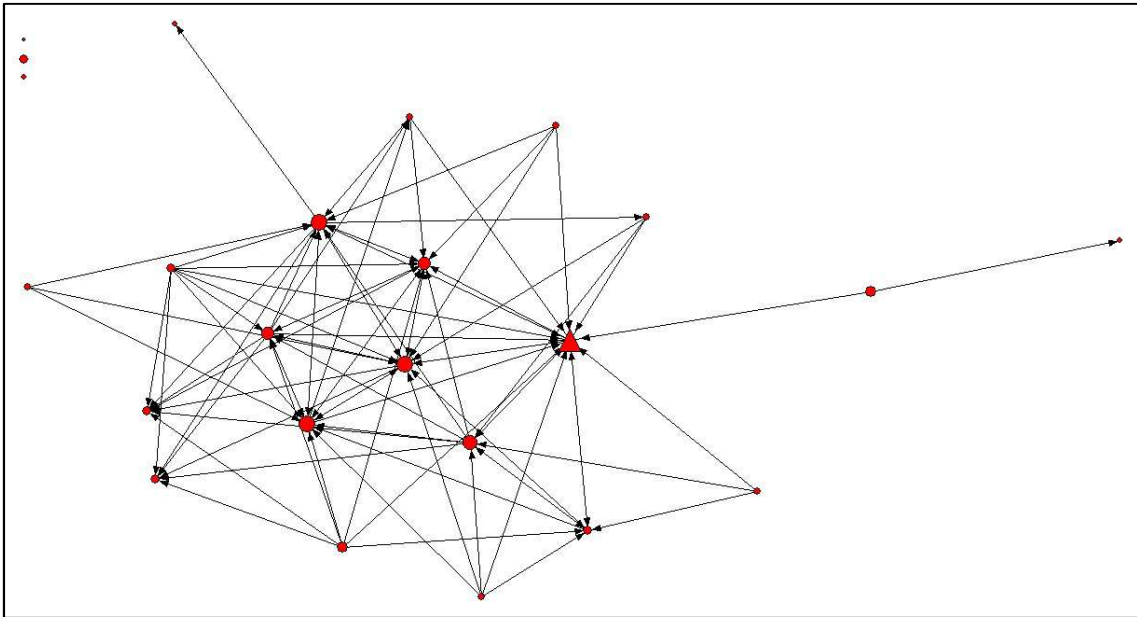
Area 1 is one of the best connected areas of ALICE-RAP. Only three participants are not connected with anybody. The leader of the area (triangle) is the one with the highest level of centrality and betweenness. This means that it can be used as a bridge to connect different participants.

AREA 2
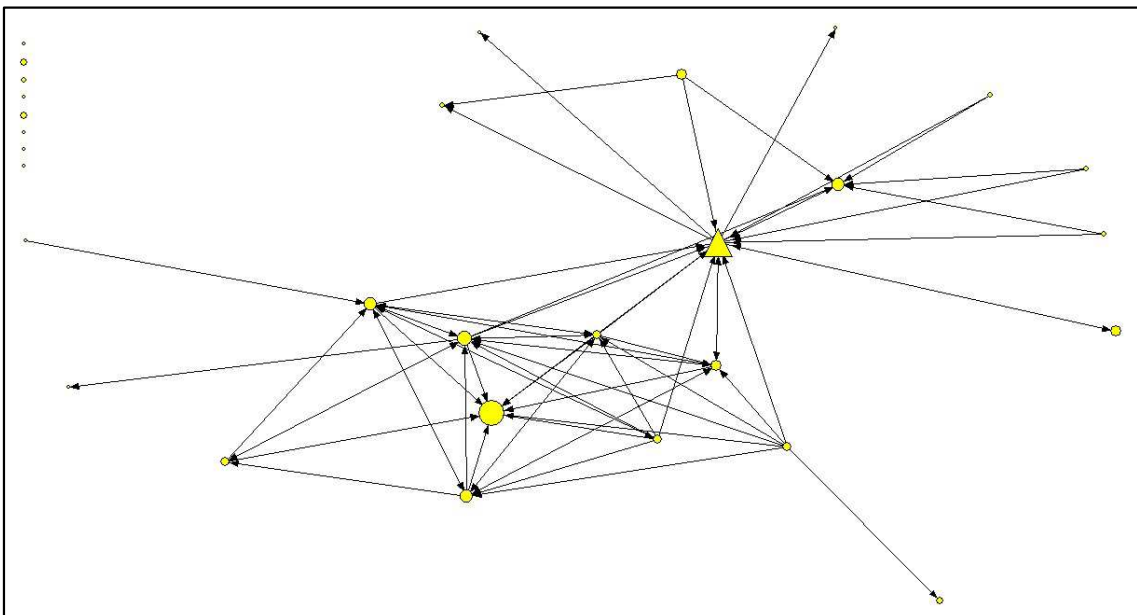
Area 2 seems to rely too much on the leader, which is the one with the highest level of centrality and betweenness. In addition, 8 out of 30 participants in this Area are not connected with anybody.

AREA 3
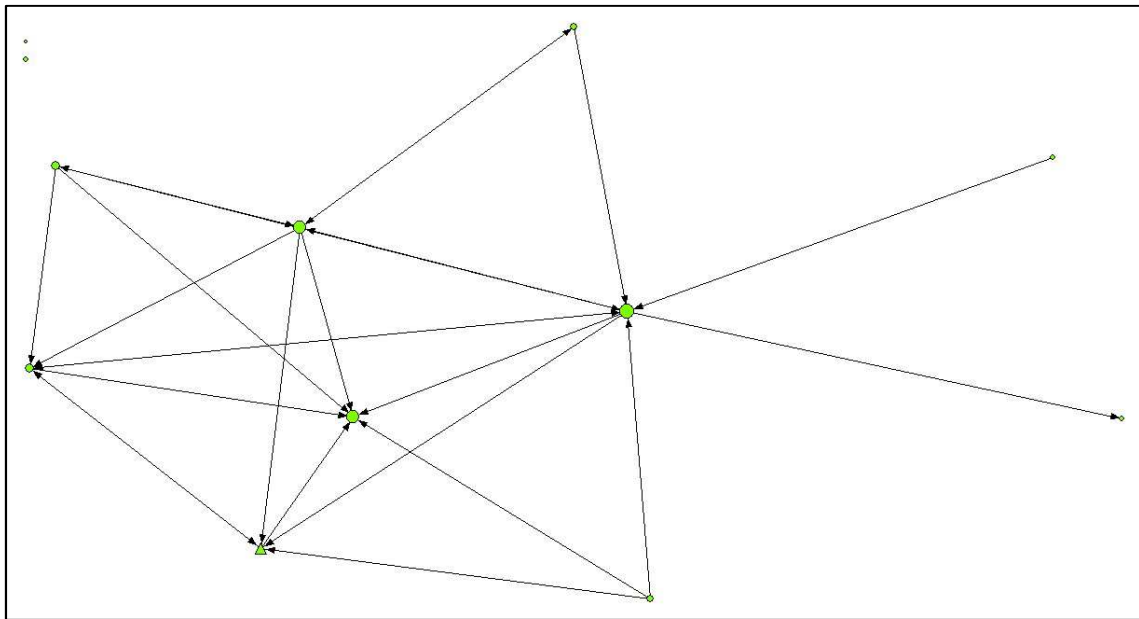
Area 3 has many central players apart from the Area leader, which is not the one with the highest level of centrality and betweenness. Interestingly, the other actors in the network have many reciprocal ties, fostering the density of the network. Finally, it is worth mentioning that only two participants are disconnected from the main network.

AREA 4

Area 4 stands out for being split into two different networks. Furthermore, the leader is found in the network which is less well connected. Because of that, the participant with the highest level of centrality and betweenness is in the lower-right network.

AREA 5
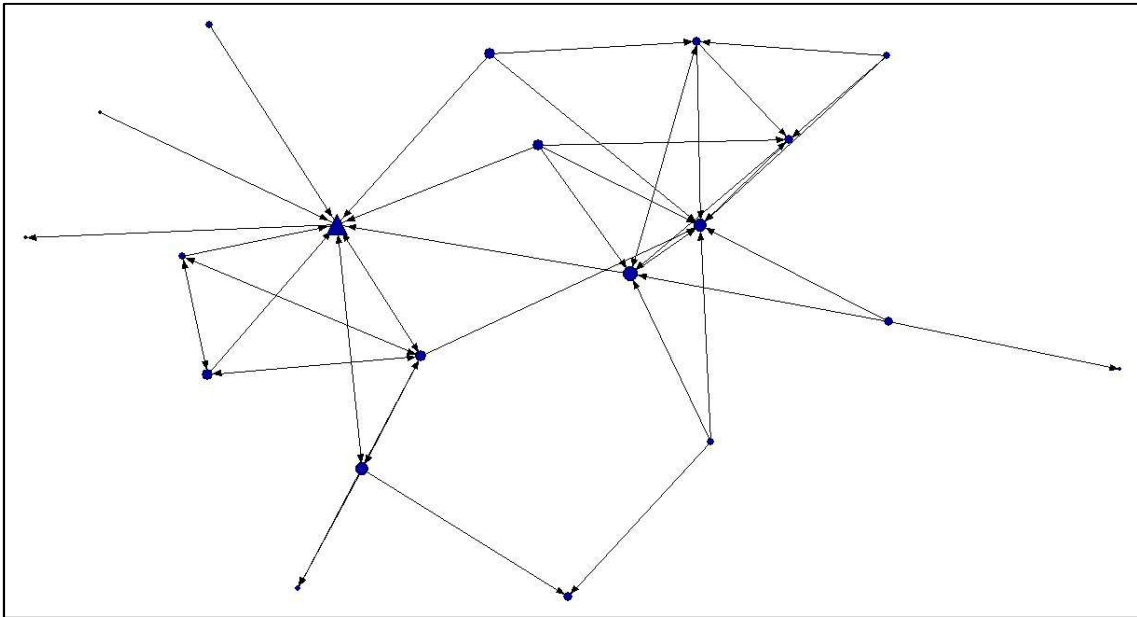
Similarly to Area 1, Area 5 is one of the best well connected of ALICE-RAP. The Area leader is the one with the highest level of centrality and betweenness and all the participants working in this network is connected to somebody (i.e. nobody is isolated).

AREA 6
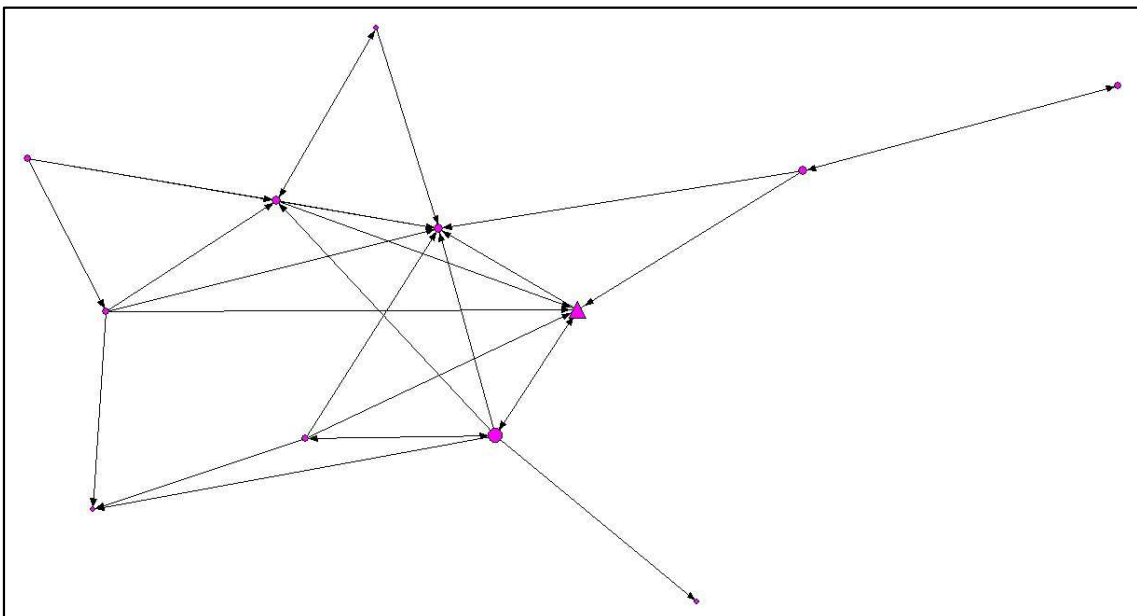
Area 6 has fewer participants than the other areas, but all of them are properly connected to the network. The centrality is not monopolized by the leader and various actors are very important for the sustainability of the network. Nonetheless, the area leader is the one with higher levels of centrality and betweenness.
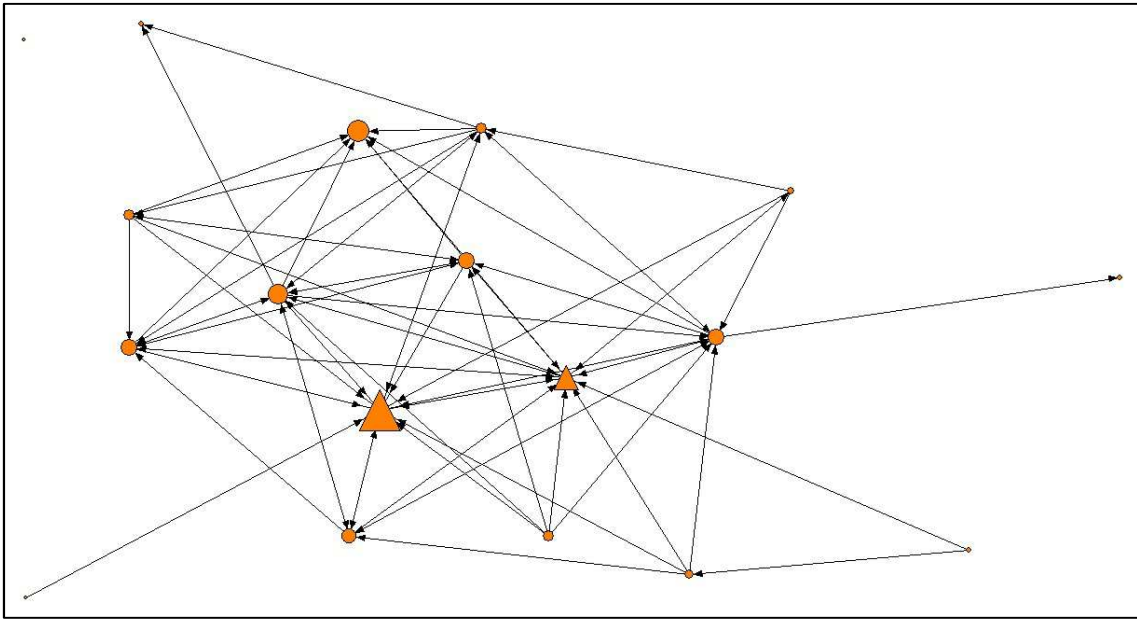
Area 7 presents a high level of density. Most of the ties are reciprocal and, except for one actor, all the participants are well connected. The leadership of the Area is centralized in two different figures being one of them the one with higher levels of centrality and betweenness within Area 7 and within ALICE-RAP network.

Aggregated SNA results by areas

Area	Respondents	Degree	Betweenness
Area 1	24	131.374	25.596
Area 2	30	124.837	27.186
Area 3	12	50.326	7.681
Area 4	21	60.786	19.539
Area 5	20	94.117	14.537
Area 6	12	49.020	13.131
Area 7	18	146.405	54.404
GSG	13	28.105	8.416
Others	4	NA	NA

As presented in the table above, Area 7, as the coordinator of ALICE-RAP project, is the one with higher levels of centrality degree and betweenness. This is indispensable in order to coordinate the project and foster collaboration.

CONCLUSIONS

This technical report presents the main results of the 2nd wave survey conducted between June and July 2014. The advanced stage of development of the project has facilitated the engagement of participants, obtaining a response rate of 70.86%.

The most important improvements to be highlighted when comparing the two wave surveys((2011 and 2014) are the increased level of trust and the positive assessment of the results produced by ALICE-RAP thus far. In this vein, after three years of collaboration, the levels of trust on the project and among participants has not decreased, on the contrary, they have increased. This paves the way for a fruitful collaboration until the end of the project and might be a foundation stone for future collaborations. Regarding the results, respondents assess positively the outputs and outcomes that have been produced either individually (within ALICE-RAP framework) or by the project in general.

Regarding the Social Network Analysis, we see that ALICE-RAP network remain very well connected. As noted, the network density has increased mainly thanks to the growing collaboration among partners. Furthermore, Areas that did not report very well in the 1st wave survey, are now presenting well connected networks.

It is worth mentioning that, despite the importance of Area leaders, many other players seem to be relevant within Area networks. This distribution of centrality might foster the sustainability of the network since it does not only depend on a single participant.