Big Data to Enable Global Disruption of the Grapevine-powered Industries

D9.3 - Dissemination and Awareness Report

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ACRONYMS LIST

DoA   Description of Actions
DaaS   Data as a Service
EU   European Union
FP7   Framework Programme 7
KPI   Key Performance Indicator
PaaS   Platform as a Service

EXECUTIVE SUMMARY

BigDataGrapes aims to help European companies in the wine and natural cosmetics industries become more competitive in the international markets. It specifically tries to help companies across the grapevine-powered value chain ride the big data wave, supporting business decisions with real time and cross-stream analysis of very large, diverse and multimodal data sources. The project involves the following types of commercial partners of the European grapevine-powered industries:

- Wine producers, bottlers and distributors that are managing large vineyards and are taking critical decisions that may affect (a) product lines, such as which grape varieties to combine and plant at which location and under which treatment in order to produce a new wine; or (b) production years, such as how to efficiently monitor and predict where careful vineyard management interventions should take place.
- Producers and packagers of food and wine products using grape by-products as ingredients (such as raisins, must, vinegar and grape juice) and that are continuously monitoring the quality of their product and assessing its vulnerability to risk.
- Natural cosmetic companies that have product lines based on grapes and wine that are continuously testing the quality of the grape extracts that they are using as ingredients and the corresponding suppliers.

BigDataGrapes also aims to improve the competitive positioning of companies in the European IT sector that are serving companies and organisations with software applications:

- Software companies developing farm management and precision agriculture systems for companies in the agriculture sector.
- Software companies developing food risk assessment monitoring and prediction systems for companies in the food sector.
- Software companies developing quality control and compliance software for companies in the beauty and cosmetics sector.

Furthermore, BigDataGrapes aspires to establish a framework facilitating the transparent documentation, exploitation and publication of research assets (datasets, software components results and publications), in order to enable their reuse and repurposing from the wider research community. Thus, the vision of BigDataGrapes project is to develop and demonstrate powerful data processing technologies that could initially serve all European companies active in two key industries powered by grapevines: the *wine industry* and the *natural cosmetics one* and it could be evolved to a BigDataGrapes entity demonstrator that will be positioned as the European grapevine-powered thematic entity.

WP9 concentrates on the dissemination of the project and its results among the identified target groups by using online and offline dissemination channels and activities. More specifically, WP9 focuses on (a) creating awareness and engaging further the scientific communities that are related to each one of the projects' pilots: Table and Wine Grapes Pilot (AUA), Wine Making Pilot (INRA), Farm Management Pilot (ABACO & GEOCLEDIAN), and Natural Cosmetics Pilot (Symbeeosis) (b) creating general awareness about BigDataGrapes and the types of innovative services that scientists may use, in other scientific communities and networks (Task 9.2). Moreover, linking BigDataGrapes with international initiatives and networks that are working on open, big and interoperable data for agriculture and nutrition towards contributing to the corresponding standardisation work falls within the scope of WP9 under Task 9.3. Additionally, alignment of the work held in BigDataGrapes with the development and deployment of roadmap, to help positioning BigDataGrapes in the global Data as a Service (DaaS) and Platform as a Service (PaaS) ecosystems, as well as establish a legal entity for its future management and operation is part of Task 9.4.

WP9 has created until M18 an online infrastructure (including project website and social media channels) and a set of print dissemination materials to promote the project (as presented in Annex C). By the end of M18, the project website has been visited by 1551 people (unique visitors) and the social media channels count 204 followers (Twitter), 981 views (SlideShare) and 26 views (YouTube). These numbers are expected to be further increased as soon as additional tangible results will be made available during the second period of the project (M19-M36)

Finally, the project has organized 5 major events with researchers and practitioners of the grapevine sector (see Section 3.1 and Annex A). Moreover, the project has conducted 13 presentations at conferences, workshops, meetups and networking events and was represented at 3 AgTech fairs with a booth or distributing leaflets (see Section 3.2 and Annex B). In total, more than 110.000 stakeholders have been reached and 13 scientific papers (journal papers and conference papers) were submitted for publication or published (see Section 3.3 and Annex B).

This deliverable describes online and offline dissemination channels, as well as activities, which were conducted until M18 of the project. Moreover, it provides an outlook of the dissemination activities that are planned for the next 18 months of the project, namely M19-M36. Furthermore, Key Performance Indicators are described and applied to measure the effectiveness of dissemination until M18 and allow measuring the progress in the next 18 months.

As already mentioned, one of the main goals of BigDataGrapes, is to achieve impact at serious competition and risk challenges that European companies operating in the agriculture, food and beauty sectors face. The first 18 months of the project show us that in order this to be achieved a revision of the existing dissemination and exploitation strategy is necessary.

After consulting with experts in the field, we are convicted that this revised strategy needs to be based on the principles of an inbound and digital marketing to maximize the competitiveness of companies that choose to use the data BigDataGrapes (Big) Data Platform. This revised strategy will consist of a new pilot (Food Protection), focused primarily on resolving buyers' challenges, as the existing ones are towards resolving farmers' challenges. As described in Section 5 of this deliverable Agroknow, as the WP leader, is strongly suggesting that we aim for a revised version of the dissemination and exploitation plan (D9.2) in month 24 that will incorporate the outcomes of the following major actions:

1) Agroknow with the support of all partners will outline a digital marketing strategy. The result of this strategy should be a messaging architecture with supporting regional proof points for all external communication, a Social media strategy and a CEO media story-bible creation for generating a powerful, credible, prestigious content that talks about Agroknow and its solutions in order to position Agroknow as a thought leader in relation to technology applications and solutions in the food sector.

2) To act more effectively and target-oriented towards the full implementation of its defined dissemination tasks via all its communication channels, in order to improve the results obtained so far and to achieve the set targets. It is also suggested, to hire help for punctual tasks (e.g.: setting up google ads, injecting structured annotations in the webpage to improve its ranking, etc).

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1 INTRODUCTION

Big data is becoming a hype that is going to redefine complete industries within very traditional sectors like agriculture, food and beauty. For instance, the wine industry is booming with business articles on the potential that big data has (e.g. "How Big Data Can Predict the Wine Of The Century", "The Perfect Pairing: Machine Learning and Wine", "Here's What Happens When Wine And Geeks Mix").

BigDataGrapes aims to build upon the rich historical, cultural and artisan heritage of Europe, aiming to support all European companies active in two key industries powered by grapevines: the wine industry and the natural cosmetics one. It will help them respond to the significant opportunity that big data is creating in their relevant markets, by pursuing two ambitious goals:

- To develop and demonstrate powerful data processing technologies that will increase the efficiency of companies that need to take important business decisions dependent on access to vast and complex amounts of data.
- To catalyse the creation of a data ecosystem and economy that will increase the competitive advantage of companies that serve with IT solutions these sectors.

BigDataGrapes is targeting technology challenges of the grapevine-powered data economy as its business problems and decisions requires processing, analysis and visualisation of data with rapidly increasing volume, velocity and variety: satellite and weather data, environmental and geological data, phenotypic and genetic plant data, food supply chain data, economic and financial data and more. It therefore makes a perfectly suitable cross-sector and cross-country combination of industries that are of high European significance and value.

Furthermore, BigDataGrapes aspires to establish a framework facilitating the transparent documentation, exploitation and publication of research assets (datasets, software components results and publications), in order to enable their reuse and repurposing from the wider research community. Thus, the vision of BigDataGrapes project is to develop and demonstrate powerful data processing technologies that could initially serve all European companies active in two key industries powered by grapevines: the wine industry and the natural cosmetics one and it could be evolved to a BigDataGrapes entity demonstrator that will be positioned as the European grapevine-powered thematic entity.

As a result, the dissemination activities of the project (as part of WP9) are organized based on five main pillars (see also deliverable D9.2). For these pillars, appropriate Key Performance Indicators (KPIs) have been identfied and applied to measure the effectiveness of the dissemination (see Section 4):
- **BigDataGrapes branding & communication material, channels:** focuses on the development branding & communication material such as the project web-site, social media, printed brochures and posters, as well as project promotional videos.
- **BigDataGrapes campaigns:** focuses on (a) the preparation of posts to general press and media, (b) the organization of campaigns towards H2020 project coordinators & data managers and (c) the preparation of big open data challenges & awards
- **BigDataGrapes science & technology outreach:** focuses on (a) the preparation of scientific papers, presentations and publications to journals and conferences related to the BigDataGrapes project, (b) the promotion of the project outcomes through targeted news items for external stakeholders, (c) the organization of webinars, open days and special sessions in workshops or conferences and (d) the participation to special interest groups in specialized forums, standardization groups, global networks
- **BigDataGrapes business outreach:** focuses on (a) the organization of hackathons and meet-ups and (b) the participation at AgriTech commercial exhibitions and trade fairs

- **BigDataGrapes policy outreach:** focuses on (a) outreach activities towards policy & decision makers, (b) preparation of white papers to inform international donors or meetings of the Policy Committee, as well as national and regional government officials and (c) organization of coordination meetings of H2020 big data and IoT project coordinators in collaboration with AGINFRA+ and IoF2020

The deliverable represents online channels and their reach during the first 18 months (see Section 2), as well as offline dissemination activities that have been conducted (Section 3). In the fourth section, the project's dissemination activities of the first 18 months are summarized and their impact is demonstrated (Section5) while an outlook of the dissemination activities that are planned for the second project year is presented in Section 6.

2   ONLINE DISSEMINATION (UNTIL M18)

This section provides the list of the project's online dissemination channels that are used to promote its main outcomes and to attract the targeted stakeholders to active participation in its activities. The main online dissemination mean is the project website that presents all the project information and the progress so far. Additionally, the project social media are the key online channels for informing the target groups about the project outcomes and the project dissemination activities, like the presentation in key events (workshops and conferences) and the organization of project workshops. Finally, webinars organized by the project serve as the mean for showcasing and demonstrating the project outcomes to external stakeholders

2.1   PROJECT WEBSITE

The project website (http://www.bigdatagrapes.eu/) is the main online dissemination channel used to promote the project and increase the stakeholders' awareness of the project activities. It provides general information about the project vision and objectives, research activities and important results, workshops and other project events. Furthermore, the project website establishes connection to offline dissemination activities promoting them and providing print materials, scientific papers and official deliverables for download. Contact information of consortium partners can also be found on the website.

Both project website and project news blog (http://www.bigdatagrapes.eu/news) were launched on January 2018 (M1). The main purpose of this blog is to inform the stakeholders about the latest news (e.g. new developments, project materials, announcements about events organized and impressions from past events, etc). Notes on scientific outcomes of the project, implementation results, as well as particularities of technical realizations can also be published on the blog.

In order to measure the dissemination rate of the website and to collect general information about the users, the project website has been connected to Google Analytics since the 18th of July 2018 (M7). From M7 until M18, the website was visited by **1.551 unique users** coming from **United States** (16.79%) **Greece** (13.60%), **Italy** (11.24%), **France** (8.49%), **Austria** (5.17%), **Germany** (4.15%), **India** (3.77%), **Belgium** (3%), **Spain** (2.94%) and **United Kingdom** (2.75%) and other countries. 12.6% of visitors are new, and 87.4% are returning visitors. Figure 1 represents the number of visitors who accessed the website for the period between 18.07.2018 to 28.06.2019.
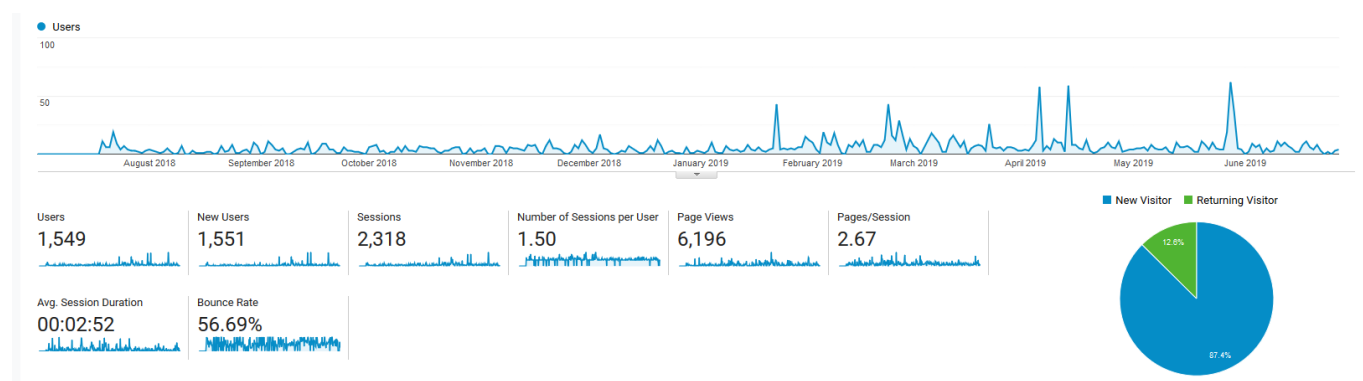
Figure 1: Visits of the BigDataGrapes website [18.07.2018 - 30.06.2019]

The most prominent peaks on the chart are appeared on 22 January 2019 during the days of the first BigDataGrapes Kick-off Meeting and on 28th of May, one day before the BigDataGrapes project Webinar on Field Monitoring, as well as during other dissemination and policy activities between the 5-13 of April, namely (a) Webinar on Field Monitoring with Geocledian's Ag|knowledge API & Tools on 29th of May 2019 (b) Workshop on "Big Data for the Grapevine Industries" on 8th of April 2019.

The traffic sources are represented as follows: 44.85% direct traffic (coming directly from the Google search), 39.89% organic search, 8.37% social traffic (through social media) and 6.81% referral (redirection from other

websites). Most of the users' land on the homepage (33.25%), whereas other frequent landing pages are the pages related to news (22.05%), partners (7.91%), project deliverables (5.76%) and events (5.34%).

2.2 SOCIAL MEDIA CHANNELS

In order to support communication between the project (represented by particular consortium members) and external stakeholders from the targeted project communities, BigDataGrapes provides pages to three (4) main social media platform, namely Twitter, YouTube, SlideShare and LinkedIn.

2.2.1 Twitter

The BigDataGrapes Twitter account (https://twitter.com/BigDataGrapes) was created on November 2017. Until the end of June 2019 (M18), the twitter account includes **204 followers, 84 tweets** and **527 likes.** Additionally, during M1 to M18 BigDataGrapes tweets were appeared to other twitter accounts' timelines for **140.7 K times** (i.e. tweet impression).

2.2.2 YouTube

The BigDataGrapes Youtube account (https://bit.ly/2x3ijLL) was created on January 2019. At this media channel, stakeholders will have the chance to view recordings of the project webinars and other project promotional videos. Until the end of June 2019 (M18) the YouTube account includes the recording of one (1) webinar organised by the project (see section 2.3) with 26 views and 3 likes.

2.2.3 SlideShare

The BigDataGrapes SlideShare account (https://www.slideshare.net/BigDataGrapes) was created on June 2018. At this media channel, stakeholders will have the chance to check all the presentations of BigDataGrapes partners that have been presented in Conferences, Workshops, Meetups, Networking sessions and Trade Fairs. Until the end of June 2019 (M18) the SlideShare account includes 10 presentations, which have received 981 views.

2.2.4 LinkedIn

The BigDataGrapes LinkedIn account (https://www.linkedin.com/groups/13574473/) was created on January 2018. Until the end of June 2019 (M18), the LinkedIn account had 25 members and not a single post/publication. It is expected the dissemination activities of this channel to be enriched (e.g. new blog posts to be published) and the number of its members to be increased.

2.3 WEBINARS

In order to disseminate the project results to external stakeholders from the targeted project communities, BigDataGrapes organizes webinars where project partners demonstrate the project outcomes. The 1st webinar of the project was organized on 29th of May 2019. The webinar was entitled "*Field Monitoring with Geocledian's Ag|knowledge API & Tools*" and it was organized by GEOCLEDIAN. During the webinar GEOCLEDIAN, presented its global Near-Realtime Field Monitoring service "Ag|knowledge" and how to use it. In particular, the partner presented what kind of data and analytics they offer and how to access them and explain the usage of our API. Available tools that were presented were EO web analytics tool "Analyst's dashboard", QGIS plugin and available web visualization components.

Ag|knowledge is part of the project's software stack and is used in the project to retrieve satellite data analytics for vineyards in several European countries. These data sets are connected in the project with all kinds of other

data sources from the project partners, like yield, grape quality, or wine taste data. Prediction models and Precision Farming Practices are developed based on these data sets.

This webinar was attended by **65 participants**.

2.4 PRESS PUBLICATIONS

Besides its main dissemination channels, until M18, the project partners prepared a number of online press publications and communicated the project objectives and vision via online dissemination media. More specifically, a blogpost was published by ONTOTEXT partner to its blog, entitled *"From Cultivating Nature to Cultivating Data: Semantic Technology and Viticulture"* (https://bit.ly/2I4CMG5). Additionally, on February 2019 an online article was published at Kathimerini, a Greek newspaper, entitled "*Agricultural production with satellites and robots*" (https://bit.ly/2ZitvQO). During M14 of the project, one more online article was published in the Derstandard newspaper, concerning the project, entitled *"How big data helps winemakers to produce better wine"* (https://bit.ly/2WxrHBK). One more online article was published at Agroknow's medium concerning how the project can help the Grape Industry survive through Climate Change, entitled *"Sensors, Internet of Things and Vineyards"* (https://bit.ly/2KFQG3g).

Moreover, the project exploited the possibility to make announcements about the project via newsletters, such as an electronic newsletter published by Big Data Value eCosystem Project *(*BDVe, https://www.big-data-value.eu/*)*. More precisely, on Big Data Value eCosystem project newsletter (issued on September 2018), a BigDataGrapes announcement was released under the title *"BigDataGrapes – Big Data To Enable Global Disruption Of The Grapevine-Powered Industries"* (https://bit.ly/2XAoVNa).

During the next 18 months similar announcements will be released on newsletters, blogs and online magazines/newspapers.

3 OFFLINE DISSEMINATION (UNTIL M18)

The offline dissemination activities of the BigDataGrapes project include (a) the organisation of workshops in collaboration with international stakeholders and other EU-funded initiatives towards sharing best practices on aspects related to big data management, processing/analytics and visualization related to the BigDataGrapes pilots, (b) participation to small-scale events (e.g. workshops organized in partners' premises) and large-scale events, like international conferences, workshop, policy events etc, and (c) publishing papers in conference proceedings, international journals and book chapters.

In order to communicate the project's work to the target audiences, various dissemination materials have also been created (see section 3.4).

3.1 EVENTS ORGANIZED

During the first 18 months of the project, BigDataGrapes consortium organised four (4) events (see Annex B). The major event organized by the project was a one-day workshop on how ICT and big data science development can potentially provide innovative and more effective ways to support the grapevine industry dealing with extremely large and heterogeneous data flows. The workshop was organized by the BigDataGrapes project consortium in collaboration with the Department of Agriculture, Food and Environment of the University of Pisa on 8 March 2019 in Pisa, Italy.

The aim of the workshop was to bring together different stakeholders from the grapevine industry, so as to present the project vision and enhance the dialogue regarding the challenges that are being faced within the value chain of these industry and how big data technologies can support them. The workshop was attended by **50 stakeholders**. The workshop agenda is presented in Annex A.

3.2 EVENTS ATTENDED

In the first 18 months of the project, the project was represented at multiple conferences, workshops, policy events and other events (such as fairs and meetups). Through these events, BigDataGrapes partners reached more than 110.000 stakeholders (an approximate number based on partners' estimations). The BigDataGrapes project has been promoted in 8 European countries (i.e. Netherlands, Bulgaria, Greece, Italy, Spain, Belgium, Germany and Latvia) and in Canada targeting both representatives from European research communities and stakeholders from Canada. In sum, more than **13 presentations** at conferences, workshops, meetups and networking events have been conducted and the BigDataGrapes project has been promoted in **3 AgTech fairs**. In particular, the events attended during the first 18 months of the project are:

1. "Global forum for Innovations in Agriculture", Utrecht, Netherlands on 20-21.06.2018 with about 500 participants. The project had a dedicated booth at this event.
2. "BDV Annual Summit 2018", Sofia, Bulgaria on 14-16.05.2018 with about 200 participants.
3. "15th Conference of Agricultural Economy of Greece", Thessaloniki, Greece, on 1-2.11.2018 with about 200 participants.
4. "2nd Athens Innovation Festival (AIF) 2018", Athens, Greece on 12-14.11.2018 with about 500 participants.
5. "Conferenza del Dipartimento Cnr-Diitet - Area strategica 'Informatica'", Pisa, Italy on 30.11.2018 with about 100 participants.
6. "20th International Conference on Human-Computer Interaction with Mobile Devices and Services", Barcelona, Spain on 04.09.2018 with about 150 participants. The project has a dedicated booth at this event.
7. "12th ACM Conference on Recommender Systems (RecSys)", Vancouver, Canada on 07.10.2018 with about 40 participants.
8. "11th Data Science Leuven Meetup", Leuven, Belgium on 21.11.2018 with about 126 participants.
9. "12th Recommender Systems Netherlands (RecSysNL) meetup" Amsterdam, Netherlands on 18.12.2018 with about 83 participants.

10. "Invited talk at User-Centred Social Media (UCSM) series, University of Duisburg-Essen" Duisburg, Germany on 10.01.2019 with about 25 participants.
11. "Connecting lives: The Digital Single Market – achievements and challenges", Brussels, Belgium on 5 - 6.02.2019 with about 200 participants.
12. "Seeds & Chips", Milan, Italy on 6.-9.5.2019 with about 12600 participants. The project has a dedicated booth at this event.
13. "TuttoWine (part of TuttoFood)", Milan, Italy on 10.5.2019 with about 82.000 participants.
14. "ESA Living Planet Symposium", Milan, Italy on 13.-17.5.2019 with about 4.000 participants.
15. "SFARM workshop" Athens, Greece on 14.01.2019 with about 60 participants.
16. "BDV Annual Summit 2019", Riga, Latvia on 26.-28.6.2019 with about 250 participants.

3.3 SCIENTIFIC PUBLICATIONS IN JOURNALS AND CONFERENCE PROCEEDINGS

As a research and innovation action (RIA) project, the BigDataGrapes project seeks to have a significant impact on international research in the areas of ICT in agriculture and food, as well as in the area of Big Data. In the first 18 months of the project, BigDataGrapes published or accepted for publication **six (6) papers in scientific Journals and seven (7) papers at International Conferences**.

1. [**Journal Paper**] N. Tonellotto, C. Macdonald and, I. Ounis: "Efficient Query Processing for Scalable Web Search". In: Foundations and Trends in Information Retrieval (NOW) [**Published**]
2. [**Journal Paper**] F. Lettich, C. Lucchese, F. M. Nardini, S. Orlando, R. Perego, N. Tonellotto and R. Venturini: "Parallel traversal of large ensembles of decision trees". In: IEEE Transactions on Parallel and Distributed Systems (IEEE) [**Published**]
3. [**Journal Paper**] C. Lucchese, F. M. Nardini, S. Orlando, R. Perego, F. Silvestri and S. Trani: "X-CLEAVER: Learning Ranking Ensembles by Growing and Pruning Trees". In: ACM Transactions on Intelligent Systems and Technology (ACM) [**Published**]
4. [**Journal Paper**] G. E. Pibiri and R. Venturini: "Handling Massive N-Gram Datasets Efficiently". In ACM Transactions on Information Systems (TOIS) (ACM) [**Accepted for publication**]
5. [**Journal Paper**] F. Gutiérrez, N. N. Htun, F. Schlenz, A. Kasimati and K. Verbert: "A Review of Visualisations in Agricultural Decision Support Systems: an HCI Perspective". In: Computers and Electronics in Agriculture (ELSEVIER) [**Published**]
6. [**Journal Paper**] K. Seipp, F. Gutiérrez, X. Ochoa and K. Verbert: "Towards a visual guide for communicating uncertainty in Visual Analytics". In: Journal of Computer Languages (ELSEVIER) [**Accepted for publication**]
7. [**Conference paper**] M. Bacco, M. Catena, T. de Cola, A. Gotta and N. Tonellotto: "Performance Analysis of WebRTC-based Video Streaming over Power Constrained Platforms". In: Proceedings of the 2018 IEEE Global Communications Conference (GLOBECOM 2018) [**Accepted for publication**]
8. [**Conference paper**] C. Lucchese, F. Maria Nardini, R. Perego, R. Trani and R. Venturini: "Efficient and Effective Query Expansion for Web Search". In: Proceedings of the 27th ACM International Conference on Information and Knowledge Management (CIKM 2018) [**Published**]
9. [**Conference paper**] C. Lucchese, F. M. Nardini, S. Orlando, R. Perego and S. Trani: "Selective Gradient Boosting for Effective Learning to Rank". In: The 41st International ACM SIGIR Conference on Research & Development in Information Retrieval (ACM) [**Published**]
10. [**Conference paper**] N. Tonellotto, M. Catena and O. Friederac: "Efficient energy management in distributed web search". In: Proceedings of the 27th ACM International Conference on Information and Knowledge Management (CIKM 2018) [**Published**]
11. [**Conference paper**] F. Gutiérrez, K. Verbert and N. N. Htun: "PHARA: an augmented reality grocery store assistant". In: Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct (MobileHCI) [**Published**]

12. **[Conference paper]** D. Rojo Garcia, N. N. Htun, K. Verbert: "Evaluation results of AHMOSE: a knowledge-based visual support system for selecting machine learning models". In: IEEE Conference on Visual Analytics Science and Technology (VAST) [**Accepted for publication**]
13. **[Conference paper]** D. Rojo Garcia, N. N. Htun, K. Verbert: "A knowledge-based visual support system for selecting machine learning models". In: IEEE Conference on Visual Analytics Science and Technology (VAST) [**Accepted for publication**]

3.4   DISSEMINATION MATERIALS

To support the offline promotion activities of the project, a number of dissemination materials have been prepared, in order to be distributed by the project partners in the scope of conferences, workshops, fairs and other events:

- **BigDataGrapes project poster roll-up** (see Annex C) presents the main project motto, as well as the project consortium and links to the project social media and website. It can be used to present the project on conferences and exhibitions.
- **BigDataGrapes project general brochure** (see Annex C) presents an overview of the BigDataGrapes project, its main objectives, as well as the project consortium and links to the project social media and website. It can be used to present the project on conferences, workshops and exhibitions.

4   KEY PERFORMANCE INDICATORS

This section describes Key Performance Indicators (KPIs), which are used to measure the efficiency of the project dissemination activities in order to keep overview of the current status and to define (corrective) activities for the future periods. The evaluation is conducted to the end of each project year starting with the Year 1. The KPIs are based on those defined in Deliverable "D9.2 – Dissemination and Exploitation Plan" and they are further analysed with planned values for each year of the project and achieved values for the first 18 months of the project.

The following KPIs (presented also in Table 1) measure the project branding and the communication material:

K1.1 - Project Website Unique Visitors: The reach of the project website is measured based on the unique visitor number. The DoA does not define numbers per project year. Thus, we have set our own target based on the unique visitors of the first project year (i.e. 461). The KPI is measured with Google Analytics.

K1.2 – Project Audience: This KPI provides the number of recipients of project announcements and includes the number of social media group members, namely in this case the number of the followers at the project twitter account. The DoA does not define numbers per project year. Thus, we have set our own target based on the number achieved for the first project year (i.e. 138). The KPI is measured from Facebook and Twitter analytics services.

K1.3a - Dissemination Materials: It measures the number of different dissemination materials that will be created for offline promotion activities of the project. For the first project year the indicator equals to 2 and it includes the materials that have been described in Section 3.4.

K1.3b - Translated Dissemination Materials (Brochures and Posters): It measures the number of different translated dissemination materials that will be created for offline promotion activities of the project. This indicator equals to 10 since project partners have already translated the dissemination materials (project poster and project brochure) in Bulgarian, Italian, French, German and Greek.

K1.4 Project Videos: This KPI measures the number of project videos that will be prepared during the project lifetime.

Table 1: Branding & Communication Material KPIs (cumulative values)

Nr.	KPI	Target Source		Year 1	Year 2 (until M18)	Year 3
K1.1	Project Website Unique Visitors	Own target setting	Annual Target	500	1000	2500
			Achieved Value	461	1.551	-
K1.2	Project Audience (Social Media Followers)	Own target setting	Annual Target	100	200	500
			Achieved Value	138	204	-
K1.3a	Dissemination Materials (Brochures and Posters)	DoA	Annual Target	2	2	3
			Achieved Value	2	2	-
K1.3b	Translated Dissemination	DoA	Annual Target	10	10	15

	Materials (Brochures and Posters)		Achieved Value	10	10	-
K1.4	Project Videos	DoA	Annual Target	-	1	3
			Achieved Value	-	-	-

The following KPIs (presented also in Table 2) measure the project campaigns:

K2.1 - Open Data Challenges: This KPI measures the number of data challenges to be defined by the project and shared with global open big data initiatives and networks. This KPI is expected to be achieved during the second period of the project (M19-M36) when the project platform will be fully operational and available to external stakeholders to use its data and services.

K2.2 - Campaigns towards H2020 project coordinators & data managers: This KPI measures the number of online campaigns targeting H2020 project coordinators & data managers. This KPI is expected to be achieved during the second period of the project (M19-M36).

K2.3 - Outreach to general press and media: This KPI measures the number of press releases on project stories & outcomes, as well as interviews with project members. For the first period of the project (M1-M18), this indicator equals to 5, and it includes the press publications described in Section 2.3.

Table 2: Campaign KPIs (cumulative values)

Nr.	KPI	Target Source			Year 1	Year 2 (until M18)	Year 3
K2.1	Open Data Challenges & awards	DoA	Annual Target	-	1	2
			Achieved Value	-	-	-
K2.2	Campaigns towards H2020 project coordinators & data managers	DoA	Annual Target	-	1	3
			Achieved Value	-	-	-
K2.3	Outreach to general press and media	DoA	Annual Target	5	10	15
			Achieved Value	4	5	-

The following KPIs (presented also in Table 3) measure the project science and technology outreach:

K3.1 - Editing of special topic volumes & journal issues: This KPI measures the number of edited volumes or journal special issues. This KPI is expected to be achieved during the second period of the project (M19-M36) according to the initial planning.

K3.2 - Publication of scientific papers in journals or conferences: This KPI measures the number of scientific publications related to the project to conference proceedings, journals and book chapters. For the first period of the project (M1-M18), this indicator equals to 14 and it includes the publications described in Section 3.3.

K3.3 - Organisation of special sessions or workshops in scientific conferences: This KPI measures the number of special sessions organized in workshops or conferences. For the first period of the project, they have not been organized any special sessions or workshops in scientific conferences. This KPI is expected to be achieved

in the 2nd period of the project (M19-M36) when the pilots will be progressed and the full BigDataGrapes applications will be released.

K3.4 - Promotion of targeted news items for scientists and experts through specialised channels: This KPI measures the number of news items and blog posts published at the project website. For the first period of the project (M1-M18), this indicator equals to 26 and it includes the posts that have been published at the project blog at http://www.bigdatagrapes.eu/news.

K3.5 - Participation to training events of young scientists (e.g. summer schools, summer institutes): This KPI measures the number of lecture & hands on workshops related with the project. This KPI is expected to be achieved in the 2nd period of the project (M19-M36) when the pilots will be progressed and the full BigDataGrapes applications will be released.

K3.6 - Organisation of webinars for scientists: This KPI measures the organization of webinars towards presenting the project outcomes to external stakeholders interested to the project technologies and pilots. For the first project period (M1-M18), this indicator equals to 1 and it includes the webinar described in section 2.3.

K3.7 - Open days at partner premises: This KPI measures the number of open days organized at partners' premises regarding the project. For the first project period (M1-M18), this indicator equals to 4 and it includes the events organized and described in Section 3.1.

K3.8 - Special interest groups in specialised forums, standardisation groups, global networks: This KPI measures the number of working groups or special interest groups that the project participates. For the first period of the project, this indicator equals to 2 and it includes the presence of the project to the Agrisemantics Working Group[1] of the Interest Group on Agricultural Data (IGAD) of the Research Data Alliance (RDA)[2] and the GODAN Data Ecosystem Working Group[3]

K3.9 - Preparation of articles in general science communication & publication outlets: This KPI measures the number of articles published at journals like the Agricultural Information Worldwide. This KPI is expected to be achieved in the 2nd period of the project (M19-M36) when the pilots will be progressed and the full BigDataGrapes applications will be released.

Table 3: BigDataGrapes Science & Technology Outreach (cumulative values)

Nr.	KPI	Target Source		Year 1	Year 2 (until M18)	Year 3
K3.1	Editing of special topic volumes & journal issues	DoA	Annual Target	-	-	1
			Achieved Value	-	-	-
K3.2	Publication of scientific papers in journals or conferences	DoA	Annual Target	-	10	30
			Achieved Value	9	14	-
K3.3	Organisation of special sessions or workshops in scientific conferences	DoA	Annual Target	1	2	4
			Achieved Value	-	-	-

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[1] https://rd-alliance.org/groups/agrisemantics-wg.html

[2] https://www.rd-alliance.org/groups/agriculture-data-interest-group-igad.html

[3] https://www.godan.info/working-groups/data-ecosystem-working-group

K3.4	Promotion of targeted news items for scientists and experts through specialised channels	DoA	Annual Target	15	30	45
			Achieved Value	15	26	-
K3.5	Participation to training events of young scientists (e.g. summer schools, summer institutes)	DoA	Annual Target	-	3	6
			Achieved Value	-	-	-
K3.6	Organisation of webinars for scientists	DoA	Annual Target	2	4	6
			Achieved Value	-	1	-
K3.7	Open days at partner premises	DoA	Annual Target	-	5	10
			Achieved Value	3	4	-
K3.8	Special interest groups in specialised forums, standardisation groups, global networks	DoA	Annual Target	-	2	4
			Achieved Value	2	2	-
K3.9	Preparation of articles in general science communication & publication outlets	DoA	Annual Target	1	2	3
			Achieved Value	-	-	-

The following KPIs (presented also in Table 4) measure the project business outreach:

K4.1 - Organise national opened hackathons & meetups: This KPI measures the number of hackathons that the project organized or participated in. This KPI is expected to be achieved in the 2nd period of the project (M19-M36) when the pilots will be progressed and the full BigDataGrapes applications will be released

K4.2 – BigDataGrapes early-stage incubation of innovative start-ups: This KPI measures the number of incubation activities for innovative start-ups building on the project infrastructure. This KPI is expected to be achieved during the second period of the project (M19-M36) according to the initial planning

K4.3 – BigDataGrapes representation at AgTech commercial exhibitions and trade fairs: This KPI measures the number of commercial exhibitions and trade fairs that the project will participate. For the first project period (M1-M18), this indicator equals to 3 and it includes the Global forum for Innovations in Utrecht, Netherlands, 20-21.6.2018 and the Seeds & Chips, Milan, Italy, 06-09.05.2019 and the TuttoWine (part of TuttoFood), Milan, Italy, 10.05.2019, where the project partners participated.

Table 4: Business outreach KPIs (cumulative values)

Nr.	KPI	Target Source		Year 1	Year 2 (until M18)	Year 3
K4.1		DoA	Annual Target	-	2	5

Nr.	KPI	Target Source		Year 1	Year 2	Year 3
	Organise national opened hackathons & meetups		Achieved Value	-	-	-
K4.2	BigDataGrapes early-stage incubation of innovative startups	DoA	Annual Target	-	-	2
			Achieved Value	-	-	-
K4.3	BigDataGrapes representation at AgTech commercial exhibitions and trade fairs	DoA	Annual Target	1	2	3
			Achieved Value	1	3	-

The following KPIs (presented also in Table 5) measure the project business outreach:

K5.1 - Outreach of policy & decision makers informing about project activities, outcomes, successes, societal impact: This KPI measures the number of policy events that the project will participate in. This KPI is expected to be achieved in the 2nd period of the project (M19-M36) when the pilots will be progressed and the full BigDataGrapes applications will be released

K5.2 - White paper to inform international donors or meetings of the Policy Committee to inform funding agencies & donors: This KPI measures the number of white papers that the project will prepare towards informing funding agencies, decision makers, etc. This KPI is expected to be achieved in the 2nd period of the project (M19-M36) when the pilots will be progressed, and results will be available for white papers

K5.3 - White paper to inform national & regional government officials: This KPI measures the number of white papers that the project will prepare towards informing national & regional government officials. This KPI is expected to be achieved in the 2nd period of the project (M19-M36) when the pilots will be progressed, and results will be available for white papers

K5.4 - Organize coordination meetings of H2020 big data and IoT project coordinators in collaboration with AGINFRA+ and IoF2020: This KPI measures the number of H2020 project coordinators' information days to be organized by the project. This KPI is expected to be achieved in the 2nd period of the project (M19-M36) when the pilots will be progressed and the full BigDataGrapes applications will be released

Table 5: Policy Outreach KPIs (cumulative values)

Nr.	KPI	Target Source		Year 1	Year 2 (until M18)	Year 3
K5.1	Outreach of policy & decision makers informing about project activities, outcomes, successes, societal impact	DoA	Annual Target	1	2	3
			Achieved Value	-	-	-
K5.2	White paper to inform funding agencies, decision makers etc	DoA	Annual Target	1	2	4
			Achieved Value	-	-	-

K5.3	White paper to inform national & regional government officials	DoA	Annual Target	-	-	1
			Achieved Value	-	-	-
K5.4	Organise relevant H2020 project coordinators' information day	DoA	Annual Target	1	2	3
			Achieved Value	-	-	-

5 IMPACT OF OUR DISSEMINATION ACTIVITIES

As stated in the 2016 **Communication on Digitising European Industry**[4], progress in digital technologies in combination with other key enabling technologies is changing the way we design, produce, commercialise and generate value from products and related services. The challenge ahead is for the European industry to seize fully and swiftly these digital opportunities. While bringing new opportunities, digital innovations also open the door for new competitors in key parts of the value chain. European businesses face the threat of vendor lock in with a few ICT suppliers or platform owners from other countries (especially the United States), which will shift a major part of value creation outside their business sphere.

This is exactly the challenge that the European food industry and major European certification bodies are facing: their clients will soon be requesting them to share data using platforms from very few ICT suppliers, of mostly US origin. Right now, the US food safety market is moving extremely fast. The decision of the **US Food and Drug Administration (FDA)**[5] to prioritise blockchain-powered data sharing for food traceability (and assign as a Deputy Commissioner the ex-Walmart VP of food safety that led the Walmart-IBM blockchain pilot[6]) is indicative of the upcoming change. In the same time, we see European giants like Carrefour announcing their decision to adopt the IBM Food Trust solution[7].

The potential of grapes market is huge, as grapes are one of the world's largest fruit crops, with approximately 75 million tons produced each year. Considering the weight of the edible portion, grape is the first most produced fruit crop in the world. It is also one of the fruits with the highest input of technology and practices for its efficient management and production. For this reason, it is the fruit crop with the highest total value of production in the world, representing almost 70 billion of US dollars[8]. **BigDataGrapes** is directly aiming to support EU companies that are operating in two industries of extreme significance and potential for growth and innovation.

The wine industry is a booming one: there are more than one million wine makers in the world, producing around 2.8bn cases of wine each year. Global demand has hit nearly 3bn and is rising. But the global wine industry is changing shape, with the old world gradually losing its crown as the world's vineyard. Europe (led by France, Italy and Spain) is still the world's biggest wine producer, making around 1.5bn cases in 2012. But production from our part of the world is falling sharply[9]: for instance, between 2011 and 2012 output went down 9.5% with France (the world's biggest producer) suffering an even sharper fall of 18%. As the wine production diagram illustrates, new wine producer countries are gradually gaining market from the traditional European ones. According to 2016 data from the OIV[10], wine production in China is rapidly increasing, making the country the second largest vineyard surface area worldwide. European vineyards and wine producers need to remain at the bleeding edge of innovation in order to maintain their market positions with high quality products. Through the wine industry liaisons that **INRA** has in **France** and **ABACO** has in **Italy**, we should engage and involve companies from two top producing countries in the world to try and test the project outcomes.

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[4] Communication on Digitising European Industry - Reaping the full benefits of a Digital Single Market (https://ec.europa.eu/digital-single-market/en/policies/digitising-european-industry)

[5] https://www.fda.gov/

[6] https://www.ccn.com/u-s-fda-eyes-blockchain-to-enhance-food-safety-in-the-wake-of-e-coli-outbreak

[7] https://www.enterprisetimes.co.uk/2018/10/09/ibm-food-trust-expands-blockchain-network-with-carrefour/

[8] http://www.oiv.int/en/oiv-life/oiv-report-on-the-world-vitivinicultural-situation2016

[9] https://www.telegraph.co.uk/finance/newsbysector/retailandconsumer/10414807/Five-things-to-know-about-the-global-wine-industry.html

[10] http://www.oiv.int/public/medias/4710/oiv-noteconjmars2016-en.pdf

The cosmetic industry is also one of the largest ones internationally[11], with a market volume in the US, Europe, and Japan alone being about EUR €70bn per year and an estimated annual turnover of US$170 billion. Within this industry, the natural and organic market segment is constantly growing - expected to reach USD 25.11 billion by 2025[12] with approximate growth of 8-10% per year. The current natural and organic beauty market is estimated to reach the value of US$ 11 billion in 2016, which means that analysts expects the market's value to double in the next 8 years[13]. This growth is driven by factors such as the expansion of distribution channels, increasing online customer reach, and modern retailers' shift towards offering premium personal care products on shelves. Also, technological innovations aimed at the development of cost-effective product lines are stated as critical success factors for industry growth. Companies like **APIVITA/SYMBEEOSIS** that are innovating in Europe and distributing their products globally, are the kind of European champions that we want to empower with state-of-art technologies and tools.

One of the main goals of BigDataGrapes, is to achieve impact at serious competition and risk challenges that European companies operating in the agriculture, food and beauty sectors face. In particular, BigDataGrapes aims to increase the competitiveness of the European IT companies and to position their services in a global tech market that serves organisations in the agriculture, food and beauty sectors. In order this to be achieved the revision of the existing dissemination and exploitation strategy is necessary.

After consulting with experts in the filed we are convicted that this revised strategy needs to be based on the principles of an inbound and digital marketing to maximize the competitiveness of companies that choose to use the data BigDataGrapes (Big) Data Platform. More specifically:

> Agroknow asked feedback and proposals from different marketing experts such as REBORNN (https://www.reborrn.com/), think Digital (http://www.thinkdigitalgroup.net/), Red Flag (https://thisisredflag.com/) and WP Communication (https://wp-communications.com/) regarding the basic principles of an inbound and digital marketing that could lead to upgrading the Dissemination and Exploitation plan (D9.2)

After the execution of these steps Agroknow ended up in two main decisions and in choosing, for now, that the project can exploit UK press office in order to disseminate its results.

The two main decisions are:

1. Agroknow with the support of all partners will outline a digital marketing strategy. The result of this strategy should be a messaging architecture with supporting regional proof points for all external communication, a Social media strategy and a CEO media story-bible creation for generating a powerful, credible, prestigious content that talks about Agroknow and its solutions in order to position Agroknow as a thought leader in relation to technology applications and solutions in the food sector.
2. To act more effectively and target-oriented towards the full implementation of its defined dissemination tasks via all its communication channels, in order to improve the results obtained so far and to achieve the set targets. It is also suggested, to hire help for punctual tasks (e.g.: setting up google ads, injecting structured annotations in the webpage to improve its ranking, etc) when is considered necessary.

Through the implementation of these tasks it is believed that the impact of the social media channels will be increased and KPIs indicators will be achieved.

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[11] https://en.wikipedia.org/wiki/Cosmetic_industry

[12] http://www.grandviewresearch.com/press-release/global-organic-personal-care-market

[13] https://formulabotanica.com/global-organic-beauty-market-22bn-2024/

6   SUMMARY AND YEAR 2 PLANNING

The work of WP9 in the first 18 months of the project was focused on the development of the appropriate means to conduct online dissemination activities and on the creation of the offline dissemination materials to promote BigDataGrapes during various events like conferences and workshops. The project website was developed representing the project and consortium and providing an overview of the project pilots. Social media channels like Twitter, YouTube, LinkedIn and SlideShare offer the possibility to stay in contact with multiple stakeholders and attract attention to the project. It is expected during the last 18 months the impact of project's social media channels to be increased by publishing high quality content, more often, and by seeking involvement from the rest of the partners in the consortium. By this way, the results of the aforementioned KPIs will be improved.

Multiple events (workshops, conference presentations and policy events) were organised to address the targeted communities of the project, as well as to align with big data and AgTech initiatives. The BigDataGrapes project has been promoted in 8 European countries and in Canada. In summary, more than 13 presentations have been conducted and four (4) events have been organized. By means of these activities a total number of more than **110.000 stakeholders** have been reached. Finally, **fourteen (13) scientific publications** were published.

For the remaining 18 months of the project, the consortium is planning the further engagement of communities (industry users) that are related to the farmers' existing pilots of the project (namely, Table and Wine Grapes Pilot (AUA), Wine Making Pilot (INRA), Farm Management Pilot (ABACO & Geocledian), and Natural Cosmetics Pilot (Symbeeosis)) with the new buyers' pilots (Food Protection (Agroknow) and Natural Cosmetics Pilot (Symbeeosis)) and their all validation regarding their ability to maximize communities competitiveness under the scope of the new holistic strategy. Additionally, BigDataGrapes is planning participation in conferences and workshops (presentation of the project and scientific papers related to the project), as well as participation to fairs and summits with dedicated booths for showcasing the project results and promoting its new inbound and digital strategy.

Moreover, during the last 18 months of the project BigDataGrapes aims to continue the engagement with agri-food global data initiatives and big data networks such as the Interest Group on Agricultural Data (IGAD) of the Research Data Alliance (RDA)[14] and the GODAN Data Ecosystem Working Group[15], as well as the Big Data Value Association[16].

Finally, BigDataGrapes will start performing activities based on the principles of an inbound and digital marketing to maximize the competitiveness of companies that choose to use the data BigDataGrapes (Big) Data Platform. These activities will be based mainly on the effort that all project's partners can put and if it considered necessary, we will hire help for punctual tasks. Based on partners' effort, we aim to increase the progress of the requested KPIs.

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[14] https://www.rd-alliance.org/groups/agriculture-data-interest-group-igad.html

[15] https://www.godan.info/working-groups/data-ecosystem-working-group

[16] http://www.bdva.eu/

ANNEX A: JOINT WORKSHOP ON "BIG DATA FOR THE GRAPEVINE INDUSTRIES" (AGENDA)

Agenda (08/03/2019)

Time	Presentation Title	Presenter
10:00 - 10:15	Welcome and introductions Raffaele Perego (CNR)	Welcome and introductions Raffaele Perego (CNR)
10:15 - 10:30	The BigDataGrapes Vision: Enabling Global Disruption of the Grapevine-powered industries	Panagiotis Zervas (Agroknow)
10:30 - 12:00	**Session I: The BigDataGrapes Pilots**	
10:30 - 10: 50	Table and Wine Grapes Pilot	Aikaterini Kasimati (Agricultural University of Athens)
10:50 - 11: 10	Wine Making Pilot	Coraline Damasio (INRA)
11:10 - 11:30	Farm Management Pilot	Simone Parisi (ABACO) & Florian Schlenz (Geocledian)
11:30 - 11:50	Natural Cosmetics Pilot	Eleni Foufa (SYMBEEOSIS LONG LIVE LIFE S.A.)
11:50 - 12:00	Discussion - Wrap up	
12:00 - 12:30	**Coffee Break**	
	Session II: Vine and Wine Innovative Research and Teaching	
12:30 - 12:50	GeoSpatial Aided Applications: farmer usage and administration data control, the ARTEA case	Paolo Martini, Fulvio Giorgi (ARTEA)
12:50 - 13:10	Precision Viticulture at the Department of Agriculture Food and Environment	Giovanni Caruso (University of Pisa)
13:10 - 13:30	NetBeat: The first irrigation system with a brain	Alberto Puggioni (Netafim)
13:30 - 15:00	**Lunch**	
15:00 -16:00	**Panel: Challenges of the Grapevine Industries and How Big Data can address them?**	**Moderators:** Raffaele Perego (CNR) & Panagiotis Zervas (Agroknow)

ANNEX B: OVERVIEW OFDISSEMINATION ACTIVITIES (UNTIL M18)

Events Organized

Event Name	Event URL	Partners Participated	Event Type	Nature of Contribution	Location (City)	Location (Country)	Date(s)	Audience	Participants
Global Good – CNR Meeting	NA	CNR	Networking session	Presentation	Pisa	Italy	18/10/2018	Policy makers	20
University of Pisa – CNR Meeting	NA	CNR	Networking session	Presentation	Pisa	Italy	23/11/2018	Research	10
Institute for Big Data Analytics - University of Halifax	NA	CNR	Networking session	Presentation	Halifax	Canada	4/10/2018	Research	30
Workshop on "Big Data for the Grapevine Industries"	http://www.bigdatagrapes.eu/node/68	CNR, Agroknow, AUA, INRA, Abaco, SYMBEEOSIS	Workshop	Presentation	Pisa	Italy	8/4/2019	Research, Industry	50

Events attended

Event Name	Event URL	Partners Participated	Event Type	Nature of Contribution	Location (City)	Location (Country)	Date(s)	Audience	Estimated Participants
BDV Annual Summit	http://www.big-data-value.eu/big-data-value-meet-up-sofia/	ONTOTEXT	Meetup	Presentation	Sofia	Bulgaria	14-16.05.2018	Research, Industry and Policy Makers	200
Global forum for Innovations in Agriculture	http://www.gfiaeurope.com/	GEOCLEDIAN	Trade Fair	Booth	Utrecht	Netherlands	20-21.06.2018	Research, Industry and Policy Makers	500
20th International Conference on Human-Computer Interaction with Mobile Devices and Services	https://mobilehci.acm.org/2018/	KULeuven	Conference	Booth	Barcelona	Spain	04.09.2018	Research	150
12th ACM Conference on Recommender Systems (RecSys)	https://intrs18.wordpress.com/invited-talk/	KULeuven	Workshop	Presentation	Vancouver	Canada	07.10.2018	Research	40
15th Conference of Agricultural Economy of Greece	http://etagro.gr/2018/	APIGEA	Conference	Presentation	Thessaloniki	Greece	1-2.11.2018	Industry	200
2nd Athens Innovation Festival (AIF) 2018	https://www.athensinnovation.gr/	AUA	Conference	Brochure distribution	Athens	Greece	12-14.11.2018	Research, Industry and Policy Makers	500
Conferenza del Dipartimento Cnr-Diitet - Area strategica 'Informatica'	https://www.cnr.it/en/event/15983/conferenza-del-dipartimento-cnr-diitet-area-strategica-informatica	CNR	Conference	Brochure distribution	Pisa	Italy	30.11.2018	Research, Industry and Policy Makers	100
11th Data Science Leuven Meetup	https://www.meetup.com/nl-NL/Data-Science-Leuven/events/255742167/	KULeuven	Meetup	Presentation	Leuven	Belgium	21.11.2018	Research, Industry and Policy Makers	126

12th Recommender Systems Netherlands (RecSysNL) meetup	https://www.meetup.com/nl-NL/recsysnl/events/256374132/	KULeuven	Meetup	Presentation	Amsterdam	Netherlands	18.12.2018	Research, Industry and Policy Makers	83
2nd Year									
SFARM workshop	http://www.sfarm-project.eu/	AUA	Workshop	Presentation	Athens	Greece	14.01.2019	Research, Industry and Policy Makers	60
Invited talk at User-Centred Social Media (UCSM) series, University of Duisburg-Essen	https://www.ucsm.info/about-ucsm	KULeuven	Meetup	Presentation	Duisburg	Germany	10.01.2019	Research	25
Connecting lives: The Digital Single Market – achievements and challenges	https://multimedia.europarl.europa.eu/en/the-digital-market_EP083530_EN-V_v	Agroknow, AUA	Networking session	Presentation	Brussels	Belgium	5 - 6.02.2019	Policy makers	200
Seeds & Chips	https://www.seedsandchips.com/milano	GEOCLEDIAN	Trade Fair	Booth	Milan	Italy	6.-9.5.2019	Research, Industry and Policy Makers	12600
TuttoWine (part of TuttoFood)	http://www.tuttofood.it/en/blog/tuttofood-2019-closes-and-confirms-again-its-role-international-platform-agri-food-sector	GEOCLEDIAN	Trade Fair	Brochure distribution	Milan	Italy	10.5.2019	Industry	82000
ESA Living Planet Symposium	https://lps19.esa.int/NikalWebsitePortal/living-planet-symposium-2019/lps19	GEOCLEDIAN	Conference	Presentation	Milan	Italy	13.-17.5.2019	Research	4000
BDV Summit	https://www.big-data-value.eu/ppp-summit-2019/	CNR, Ontotext	Conference	Presentation	Riga	Latvia	26.-28.6.2019	Research, Governmental Agencies, Industry	250

Scientific publications

Authors	Paper Title	Publication Type	Publication Venue	Publisher	Status	Publication Date	URL	Lead Partner
Nicola Tonellotto, Craig Macdonald, Iadh Ounis	Efficient Query Processing for Scalable Web Search	Journal paper	Foundations and Trends in Information Retrieval	NOW	Published	2018	https://www.nowpublishers.com/article/Details/INR-057	CNR
Francesco Lettich, Claudio Lucchese, Franco Maria Nardini, Salvatore Orlando, Raffaele Perego, Nicola Tonellotto, Rossano Venturini	Parallel traversal of large ensembles of decision trees	Journal paper	IEEE Transactions on Parallel and Distributed Systems	IEEE	Published	2018	https://www.computer.org/csdl/trans/td/preprint/08430583.pdf	CNR
Manlio Bacco, Matteo Catena, Tomaso de Cola, Alberto Gotta, Nicola Tonellotto	Performance Analysis of WebRTC-based Video Streaming over Power Constrained Platforms	Conference paper	Proceedings of the 2018 IEEE Global Communications Conference	IEEE	Forthcoming	2018		CNR

			(GLOBECOM 2018)					
Claudio Lucchese, Franco Maria Nardini, Salvatore Orlando, Raffaele Perego, Fabrizio Silvestri, Salvatore Trani	X-CLEAVER: Learning Ranking Ensembles by Growing and Pruning Trees	Journal paper	ACM Transactions on Intelligent Systems and Technology	ACM	Published	2018	https://doi.org/10.1145/3205453	CNR
Claudio Lucchese, Franco Maria Nardini, Raffaele Perego, Roberto Trani, Rossano Venturini	Efficient and Effective Query Expansion for Web Search	Conference paper	Proceedings of the 27th ACM International Conference on Information and Knowledge Management (CIKM 2018)	ACM	Published	2018	https://doi.org/10.1145/3269206.3269305	CNR
Claudio Lucchese, Franco Maria Nardini, Salvatore Orlando, Raffaele Perego, Salvatore Trani	Selective Gradient Boosting for Effective Learning to Rank	Conference paper	The 41st International ACM SIGIR Conference on Research & Development in Information Retrieval	ACM	Published	2018	https://doi.org/10.1145/3209978.3210048	CNR
Nicola Tonellotto Matteo Catena, Ophir Friederac	Efficient energy management in distributed web search	Conference paper	Proceedings of the 27th ACM International Conference on Information and Knowledge Management (CIKM 2018)	ACM	Published	2018	https://dl.acm.org/citation.cfm?id=3269263	CNR
Giulio Ermanno Pibiri and Rossano Venturini	Handling Massive N-Gram Datasets Efficiently	Journal paper	ACM Transactions on Information Systems (TOIS)	ACM	Accepted	-	https://tois.acm.org/	CNR
Francisco Gutiérrez, Katrien Verbert, Nyi Nyi Htun	PHARA: an augmented reality grocery store assistant	Conference paper	Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services Adjunct (MobileHCI)	ACM	Published	2018	https://doi.org/10.1145/3236112.3236161	KULeuven
2nd Year								
Francisco Gutiérrez, Nyi Nyi Htun, Florian Schlenz, Aikaterini Kasimati, Katrien Verbert	A Review of Visualisations in Agricultural Decision Support Systems: an HCI Perspective	Journal paper	Computers and Electronics in Agriculture	ELSEVIER	Accepted	2019	https://www.journals.elsevier.com/computers-and-electronics-in-agriculture/	KULeuven
Karsten Seipp, Francisco Gutiérrez, Xavier Ochoa, Katrien Verbert	Towards a visual guide for communicating uncertainty in Visual Analytics	Journal paper	Journal of Computer Languages	ELSEVIER	Published	2019	https://doi.org/10.1016/j.jvlc.2018.11.004	KULeuven
Diego Rojo Garcia, Nyi Nyi Htun, Katrien Verbert	Evaluation results of AHMOSE: a knowledge-based visual support system for selecting machine learning models	Conference paper	IEEE Conference on Visual Analytics Science and Technology (VAST)	IEEE	Forthcoming	2019	https://recsys.acm.org/recsys19/	KULeuven

Diego Rojo Garcia, Nyi Nyi Htun, Katrien Verbert	AHMOSE: a knowledge-based visual support system for selecting machine learning models	Conference paper	IEEE Conference on Visual Analytics Science and Technology (VAST)	IEEE	Submitted	2019	http://ieeevis.org/year/2019/info/call-participation/shortpapers	KULeuven
Nyi Nyi Htun, Katrien Verbert	A highlight of uncertainty visualisations in Agriculture	Conference paper	IEEE Visualization Conference (VIS)	IEEE	Forthcoming	2019	http://ieeevis.org/year/2019/info/call-participation/posters	KULeuven

Press publications

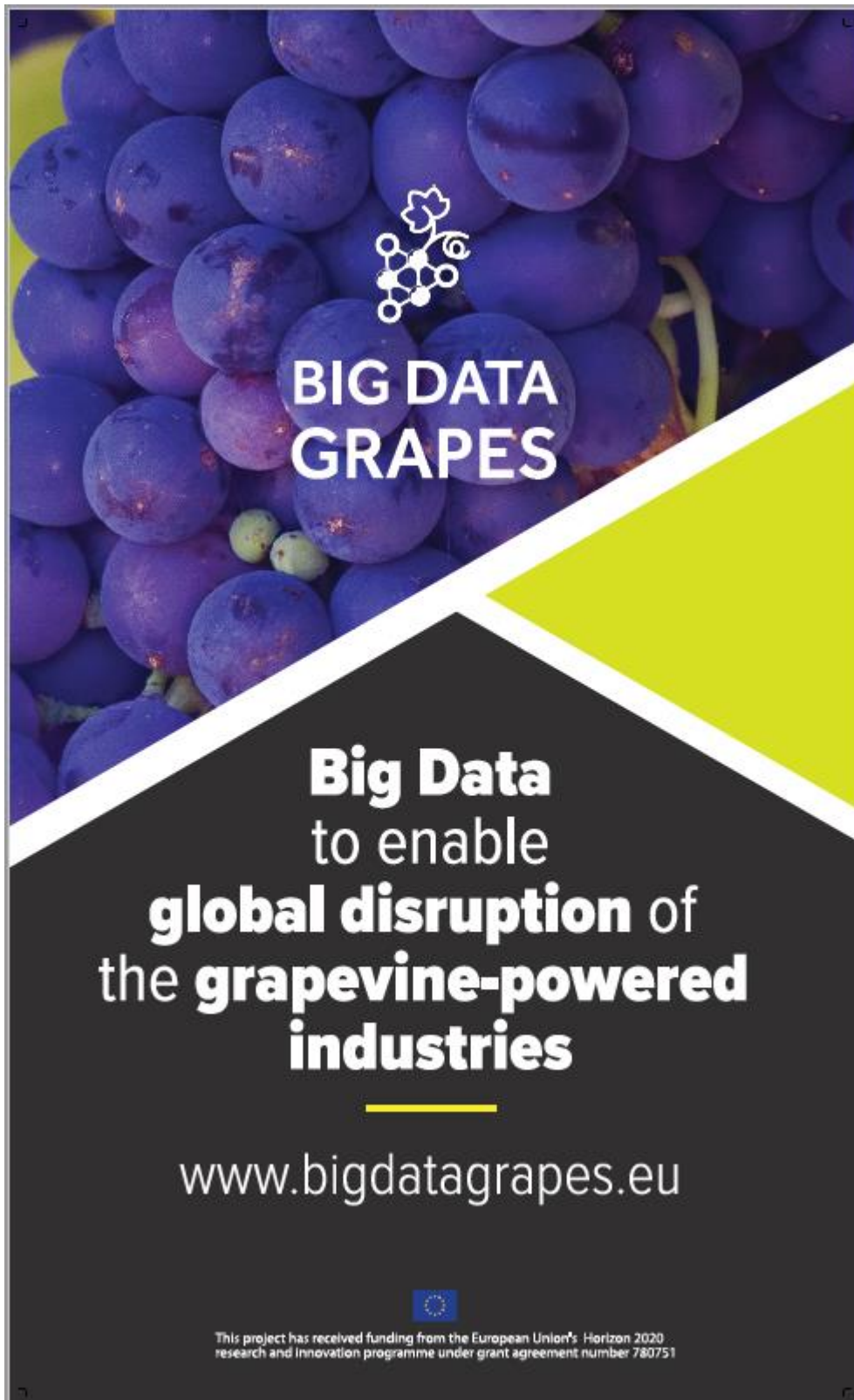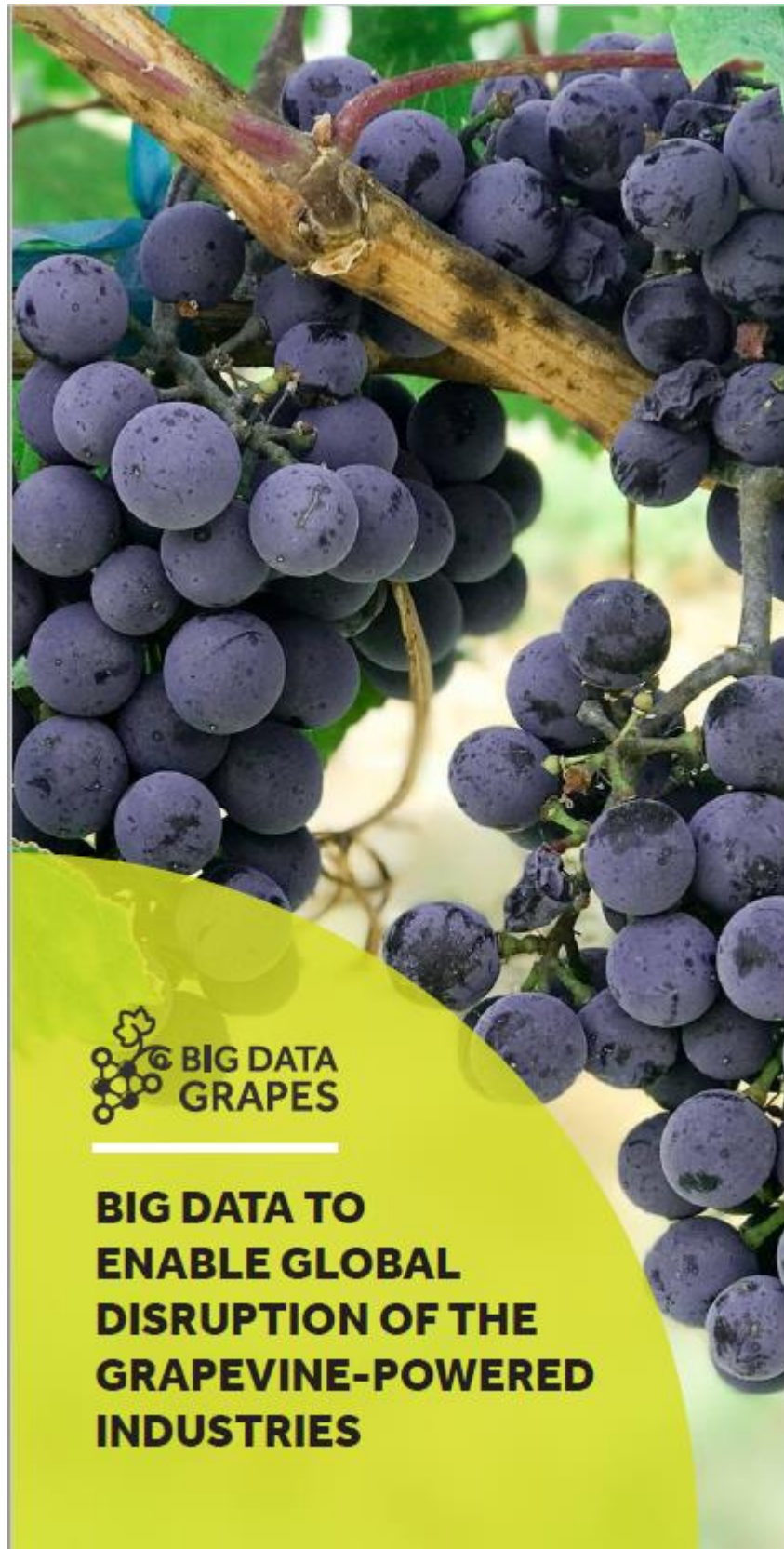| Publication Title	Publication Venue	URL	Type	Lead Partner
From Cultivating Nature to Cultivating Data: Semantic Technology and Viticulture	ONTOTEXT	https://www.ontotext.com/from-cultivating-nature-to-cultivating-data-semantic-technology-and-viticulture/	Blogpost	ONTOTEXT
BigDataGrapes – Big Data To Enable Global Disruption Of The Grapevine-Powered Industries	BigDataValue	http://www.big-data-value.eu/bigdatagrapes-big-data-to-enable-global-disruption-of-the-grapevine-powered-industries/	Newletter	Agroknow
2nd Year				
How big data helps winemakers to produce better wine	DERSTANDARD	https://derstandard.at/2000098391710/Wie-Big-Data-Winzern-hilft-besseren-Wein-zu-produzieren?ref=rss	Online article	Agroknow
Agricultural production with satellites and robotics	Kathimerini	http://www.kathimerini.gr/1008009/gallery/epikairothta/perivallon/agrotikh-paragwgh-me-doryforoys-kai-rompot	Online article	Agroknow, AUA
Sensors, Internet of Things and Vineyards.	Medium	https://medium.com/@AgroKnow/sensors-internet-of-things-and-vineyards-28b560a7c6d9?sk=b0b283d15a7a71579578381c8fa6f93c	Online article	Agroknow

Figure 2: BigDataGrapes Project Poster Roll-up

Figure 3: BigDataGrapes Brochure for demonstrating the BigDataGrapes vision towards supporting the European grapevine-powered industry [1st page]

Figure 4: BigDataGrapes Brochure for demonstrating the BigDataGrapes vision towards supporting the European grapevine-powered industry [2nd page]

THE BIGGER VISION

Big Data Grapes aims to help European companies in the wine and natural cosmetics industries become more competitive in the international markets.

Targeting technology challenges of the grapevine-powered data economy as its business problems and decisions requires processing, analysis and visualisation of data with rapidly increasing volume, velocity and variety: satellite and weather data, environmental and geological data, phenotypic and genetic plant data, food supply chain data, economic and financial data and more.

It therefore makes a perfectly suitable cross-sector and cross-country combination of industries that are of high European significance and value.

TARGET GROUPS

WINE PRODUCERS, BOTTLERS & DISTRIBUTORS

PRODUCERS & PACKAGERS OF FOOD & WINE PRODUCTS

NATURAL COSMETIC COMPANIES

QA & FS AND R&D EXPRERTS IN FOOD & WINE SECTOR

Figure 5: BigDataGrapes Brochure for demonstrating the BigDataGrapes vision towards supporting the European grapevine-powered industry [3rd page]

PILOTS & LEADERS

01

TABLE & WINE GRAPES PILOT

Leader: AUA

Improve the **quality** of **table & wine grapes**

02

WINE MAKING PILOT

Leader: INRA

Improve the **quality** of **wine** and **support** the **efficient management** of the **vineyard**

03

FARM MANAGEMENT PILOT

Leader: ABACO

Improve the **ability** to **take quick** and **informed decisions** through **farm management systems**

04

NATURAL COSMETICS PILOT

Leader: SYMBEEOSIS

Correlate different **quality biomarkers** for **producing better grape extracts** used for **natural cosmetics**

05

FOOD PROTECTION PILOT

Leader: AGROKNOW

Enhance the current **digital solution** with new modules that **will address further needs** of the **grape** and **wine** supply chain
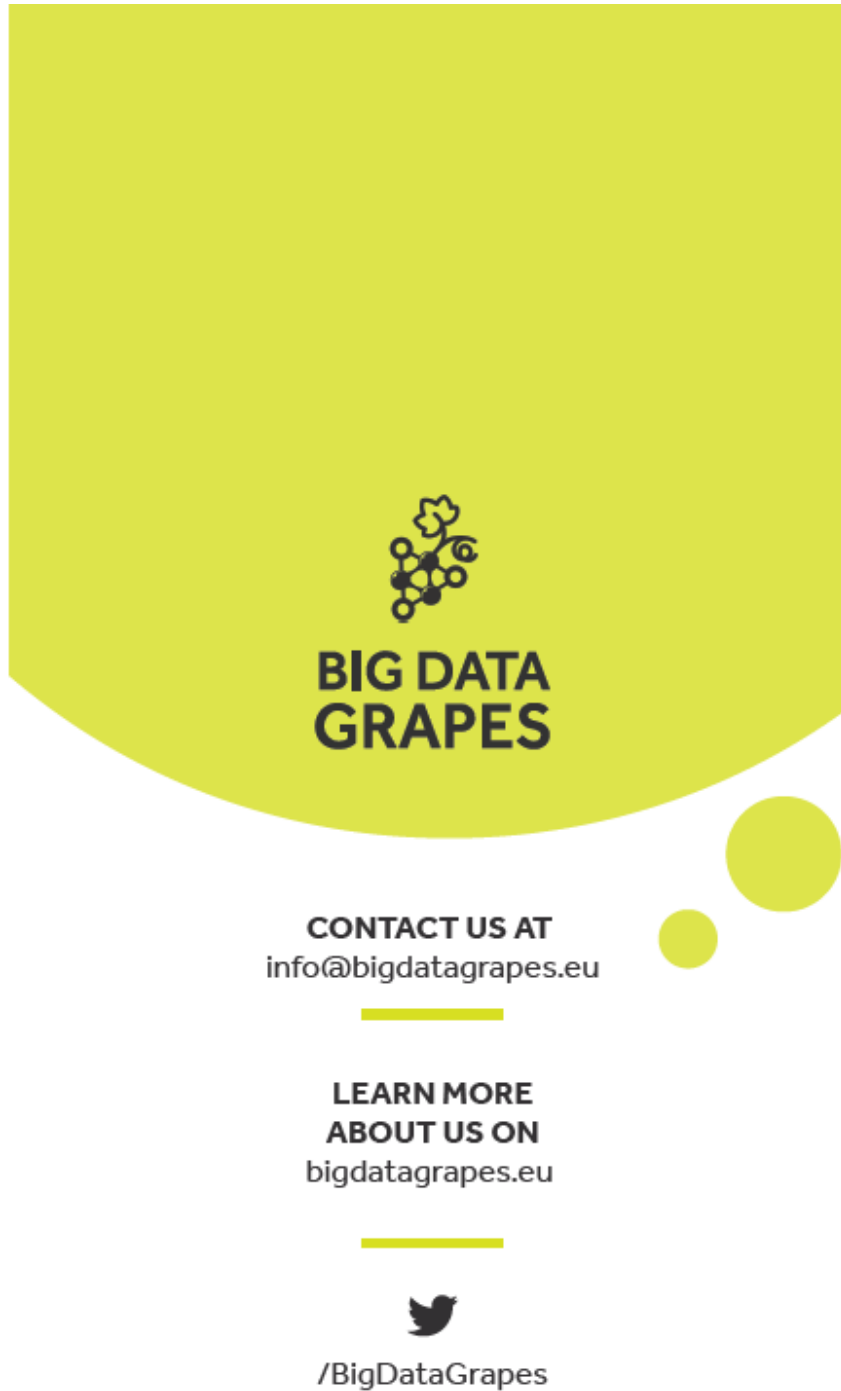
Figure 6: BigDataGrapes Brochure for demonstrating the BigDataGrapes vision towards supporting the European grapevine-powered industry [4rd page]

PROJECT PARTNERS

Agroknow

AGROKNOW

ONTOTEXT

INRA SCIENCE & IMPACT

INRA

ITALIAN NATIONAL
RESEARCH COUNCIL

AGRICULTURAL
UNIVERSITY
of ATHENS

LEUVEN

KATHOLIEKE
UNIVERSITEIT
LEUVEN

ABACO

Symbeeosis

SYMBEEOSIS

geo|cledian

GEOCLEDIAN

Figure 7: BigDataGrapes Brochure for demonstrating the BigDataGrapes vision towards supporting the European grapevine-powered industry [5th page]

Figure 8: BigDataGrapes Brochure for demonstrating the BigDataGrapes vision towards supporting the European grapevine-powered industry [6th page]