





#### **ARISTOTELE**

Personalized Learning & Collaborative Working Environments Fostering Social Creativity and Innovations Inside the Organizations

Collaborative Project-FP7-ICT-2009-5-project number: 257886



## Deliverable D15.7 Report on Performed Dissemination Activities

5 - Management & Suppoi	rı
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15 - Exploitation and Dissemination

Lead Editor: RHW (formerly PHI)

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Topic / Section	Organization
Executive Summary	RHW, MOMA
1. Introduction	RHW
2. Addressing Reviewers' Remarks	RHW
3. Industrial Dissemination	RHW
4. Scientific Dissemination	MOMA
5. Conclusions	RHW, MOMA
References	RHW, MOMA
Annex	RHW

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### **Version History**

Version	Date	Changes	Author	Comments
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0.2	22/11/2013	Update	RHW, MOMA	
0.3	28/11/2013	Update	RHW, MOMA	
1.0	16/01/2014	•	RHW, MOMA	
		internal review		







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### **Abbreviations**

Short name	Extended Name
SSCI	Symposium Series on Computational Intelligence
UMAP	User Modeling, Adaptation and Personalization
SAS	Social Adaptive Semantic Web
ACM	Association for Computing Machinery
ICALT	International Conference on Advanced Learning Technologies







#### **Executive Summary**

The present document constitutes D.15.7 and includes the final report on dissemination activities performed by the partners during the third period of the project.

The document incorporates the results of the activities with respect to both industrial and scientific dissemination over the last year of the project's life-cycle.

Indeed, in the third year of the project's life cycle, important efforts were spent in order to address the reviewer's recommendations with respect to Scientific Dissemination, and new activities were introduced to increase ARISTOTELE's visibility, in particular related to Industrial Dissemination.

With respect to the industrial dissemination, the strategy pursued meets the need to support exploitation activity providing ARISTOTELE with a strong brand presence, both online and offline, able to neutralize the perception of an "untested prototype" and to overcome the possible entry barriers due to this reason.

On one hand, on the assumption that the expressions of interest gathered about ARISTOTELE generally result into searches on the web in order to gain more information, actions to boost the web presence of the project have been undertaken: thanks to the increasing availability of the project results (in terms of scientific papers, approved deliverables, etc.), it has been possible to start a content seeding activity throughout the web and to activate also new social media channels such as Scribd, Issuu, Calameo and SlideShare. The "reason-why" behind this activity is the need to be present in those places of the web where many people are already, looking for information.

More than 80 ARISTOTELE contents have been uploaded to these sharing platforms that allowed hitting multiple targets at once, encompassing SEO, brand building, social media, content marketing and link building. As per reviewer's recommendation regarding the need to have video content spread, a YouTube channel was also created.

In total this content promotion activity produced 3.496 views and 1.977 impressions. Furthermore, in order to establish a presence on search engines a Google Adwords campaign has been activated and in about 2 months the campaign registered 4.117 clicks.

On the other hand, ARISTOTELE brand awareness has been also supported "offline" though the participation in international congresses and conferences. In order to address the reviewers' recommendations a new post event reporting template has been re-designed for reporting in a more detailed way the performed work related to events participation (details will be provided in the body of this document).

Regarding the Scientific dissemination, the reviewers, after the 2<sup>nd</sup> review meeting, recommended strengthening dissemination efforts.

Following the Scientific Dissemination Guidelines all partners contributed to increase awareness about the project and disseminate its results through the production, presentation and publication of papers in leading international journals, in conferences and workshops, as well as participation in scientific talks and industrial events and press releases. The strong partner's engagement is demonstrated by the achievement of all the indicators defined for both conferences and Journals publications. Indeed 5 papers have been published in Journals with impact factor > 1, while 31 papers have been accepted in relevant (with proceeding published by IEEE, ACM, or Springer Verlang) international conferences.







#### 1. Introduction

The document is structured into 5 sections:

- Section 1: the Introduction provides a brief overview of the deliverable's objectives;
- Section 2: contains clarifications about how we have addressed the reviewers' recommendations;
- Section 3: the actions carried out for industrial dissemination are explained and analyzed;
- Section 4: the actions carried out for scientific dissemination are explained and analyzed;
- Section 5: briefly concludes the topics of this report.

The Industrial Dissemination (Section 3), describes the activities carried out and the tools used under industrial dissemination.

#### More specifically:

- The industrial external events attended are listed with information about the type of event and the partners involved;
- The paragraph "Produced Dissemination Material" describes the promotional material related to ARISTOTELE (brochure, posters) that has been produced and/or updated in the second year of the project;
- The paragraph "Communication to the outside world" lists the tools used to communicate the project outside the Consortium: website, newsletter, press release, social networks, article marketing and e-mail marketing.

For each action a description of the goal pursued and of the strategy followed is provided. The updates made during the third year of the project are also explained.

For those actions that produced quantitative results (traffic generated to the website, press release publications, etc.), in addition to the specific description of the activities performed, a table will be shown with the related Key Performance Indicators: numbers obtained and, where possible, a benchmark value for comparison. An extensive description of all the KPIs mentioned is contained in the Supplement to D15.1 titled "Dissemination Key Performance Indicators".

Moreover, in this second phase of the project life-cycle, several actions have been introduced and improved in order to address the reviewers' recommendations received after the second review meeting:

- 1. More information is needed about post event and follow -up activities;
- 2. Need of uploading to YouTube the promotional videos available in order to achieve wider dissemination of project results.







### 2. Addressing Reviewers' Remarks

The following table clarifies the actions performed to address main reviewers' remarks.

**Table 1 Addressing Reviewers' Remarks** 

	ble 1 Addressing Reviewers' Rema	
Recommendation	Specific action undertaken to answer	can be found
RECOMMEND		
More information is needed about post event and follow - up activities	<ul> <li>Created a workflow for event coverage and follow-up activities;</li> <li>Improved and enriched the template for reporting the performed work related to events participation;</li> <li>Published on ARISTOTELE website materials related to each event attended.</li> </ul>	Section 3 - Industrial Dissemination - Paragraph 3.1
Need of uploading to YouTube the promotional videos available in order to achieve wider dissemination of project results	<ul> <li>Creation of an ARISTOTELE YouTube channel in order to upload promotional video contents;</li> <li>Creation of an ARISTOTELE SlideShare account in order to upload promotional contents;</li> <li>Creation of an ARISTOTELE Scribd account in order to upload promotional contents;</li> <li>Sharing of the videos uploaded within ARISTOTELE website and social network,</li> </ul>	Section 3 - Industrial Dissemination - Paragraph 3.3.4
There should be Information about journal's impact factor and whether they are listed in citation indexes. It is advised that the Consortium submit the project results to journals with Impact Factor >1, and that papers be published by diverse partners	Table 9 in the present document reports the required information. In particular two papers have been published on two different journals with IF >1 by two different partners.	Section 4 - Scientific Dissemination
Including Keynote speeches at international conferences as a good opportunity for	<ul> <li>Kenynote speeches, and other talks in International Conferences finalized</li> </ul>	Section 4 - Scientific Dissemination







dissemination activities	to the project scientific	
	dissemination have	
	been considered and	
	included in specific	
	tables in this	
	document.	







#### 3. Industrial Dissemination

With respect to the evolution of industrial dissemination activities, in the last phase of the project lifecycle actions have been activated in order to assure ARISTOTELE project and outcomes continuous visibility and awareness; more specifically, the actions were aimed to coordinate and harmonize tools and actions with exploitation activities in order to emphasize and promote ARISTOTELE's outputs towards market and, more in general, towards all the project's stakeholders.

#### 3.1 Attended Events

Having in mind the need to create a workflow for event coverage and follow-up activities, as per reviewers' recommendation, each partner has been required to share in advance the list of the conferences to be attended during the year. RHW has been able to provide partners with appropriate materials to be distributed during the events.

Furthermore, a new dedicated section on ARISTOTELE website has been created in order to collect materials related to each event attended.

Previously the information available on the website for each event relevant for ARISTOTELE was focused on time, location and topic of the conference/workshop/...

An evolution of the Events section has been foreseen to give more evidence to the role of ARISTOTELE within each event.

For each event the website makes available:

- Slides discussed;
- Photos:
- Video.

During the third year of the project lifecycle, ARISTOTELE has been present at many international events, being actively involved in important and varied activities, such as talks, panel discussions, paper presentations, exhibition stands. The table below gives information about the events attended.

Table 2: Events attended

Event	Date	Presenter	Place	Partner	Presentation topic
Austrian eLearning Conference (AeLC)	From 07/11/2013 To 08/11/2013	Christian Stracke	Mannheim, Austria	UDE	The Future of E- Learning: Open Learning and beyond
International Business Conference MPP 2013	From 16/10/2013 To 17/10/2013		Ljubljana, Slovenia	Amis	ARISTOTELE project
ECIS 2013	From 05/06/2013 To 08/06/2013	Gabriela Waldhart	Utrecht University in Utrecht, the Netherlands	UIBK	Enterprise Systems for Competence Development
First virtual ICORE Online	30/07/2013		Rome, Italy		







Meeting					
EFQUEL Innovation	From 26/09/2013 To 27/09/2013	Giuseppe Laria e Thomas	Barcelona, Spain	CRMPA, UDE	ADISTOTE! E project
EDEN Annual Conference 2013	27/09/2013 From 12/06/2013 To 15/06/2013	Kretschmer	Oslo, Norway		ARISTOTELE project  ARISTOTELE project
Dnevi slovenske informatike - DSI2013	From 15/04/2013		Portorož, Slovenia	Amis	ARISTOTELE project
Tyrolean IT- Day 2013	16/05/2013		Innsbruck Exhibition- Forum, Austria	UIBK	ARISTOTELE results and tools, in particular the HR related ARISTOTELE tools and the RESUME ANALYSER App
ARISTOTELE at the Microsoft Acceleration Lab	From 30/05/2013 To 31/05/2013		Redmond/USA	МОМА	CV Analyzer App Sharepoint Q&A App Skydrive Document Search ARISTOTELE Semantic Platform
Invited Lecture at University of Technology of Graz	24/05/2013		Graz, Austria	Amis	ARISTOTELE project
ARISTOTELE at AISC2012	From 03/12/2012 To 05/12/2012		Rome, Italy	ENG	
ICORE - the International Council for Open Research and Education	From 15/05/2013 To 16/05/2013		Rome, Italy		
WISE 2012	From 28/11/2012 To 30/11/2012		Paphos, Cyprus		
SITIS 2012	From 25/11/2012 To 29/11/2012		Sorrento, Italy	CRMPA	ARISTOTELE presented during a Workshop on Methods, Models and Technology for Semantic-driven Knowledge Building
ARISTOTELE	14/09/2012		Frankfurt	MOMA	ARISTOTELE project







at Frankfurt Book Fair		
2012		

It is worth mentioning the opportunity gained by MOMA and CRMPA to be invited by Microsoft at the Apps for SharePoint and Office Acceleration lab in Redmond on May 30 to 31, 2013. The Acceleration Labs are a unique opportunity provided by Microsoft to very few Companies worldwide that have promising and innovative solutions built on top of their technological stack and in particular on Office 2013. During the 2<sup>nd</sup> meeting day a Microsoft team composed by technical and business specialists of Office 2013 meets our team making an evaluation of our proposal. In particular we have presented and described the ARISTOTELE Semantic Platform and demonstrated its effectiveness through several Apps. The results have been excellent; Microsoft has highly appreciated our platform and provided us with several hints for better integration with their technology stack including the Cloud (Microsoft Azure). One of the Microsoft Office Evangelist has also asked us for the authorization to use one of our App already available in the Microsoft Office marketplace (Resume analyser) for customers' demo.

#### 3.1.1 Post Event Reporting Template

The previous version of the Post Event Reporting Template was a collection of information mainly focused on the events themselves.

The report template has been revised in order to collect information more focused on the event audience and more useful to plan engagement activities (e.g. collecting email addresses in order to build a database to be used in marketing and communication activities).

The following fields have been added:

Reason why	Reason why it represents a showcase opportunity for ARISTOTELE
Photos/Video of the event	Photos/Video taken during the event
Contacts Collected	Info about the potential stakeholder (name, company, role within the company, decision making level) and eMail Addresses of potential stakeholder, Twitter contacts, etc

#### 3.2 Produced Dissemination Material

In order to allow each partner to easily access to brochure, posters and promotional material, a dedicated section is available within the internal portal containing all the promotional contents produced since the start of the project. During the third year of the project lifecycle a specific selection of promotional materials has been added also into the official website (http://www.aristotele-ip.eu/) within the "Results" section (http://www.aristotele-ip.eu/results/).

#### 3.2.1 Brochure and demo presentation

ARISTOTELE brochure was created in August 2011 to be used in dissemination activities. The brochure consists of 4 pages containing core information about the project:

• Page 1: ARISTOTELE logo and acronym, link to the website.







- Page 2: Background information on the project and vision (textual description and visual flow).
- Page 3: ARISTOTELE research themes and objectives, information about IWT and SharePoint as base platforms.
- Page 4: list of ARISTOTELE partners and related logos, e-mail address of the consortium.



Figure 1 ARISTOTELE Brochure, page 1 and 4

Beginning of the year 2013, MOMA realized a demo presentation to support the consortium AR into exploitation activities. Moreover, a new brochure has been realized about the main solutions realized by MOMA starting from ARISTOTELE project's outputs.

#### 3.2.2 Poster

During the third year of the project lifecycle new posters have been created for EDEN 2013 and SITIS 2012.





Figure 2 ARISTOTELE Posters







#### 3.3 Communication to the outside world

This section summarizes the different tools used to communicate the outcomes and news from the project to the outside world and to the end users. In order to address the reviewers' recommendations, specific Key Performance Indicators (KPIs) were defined in order to evaluate the results of the performed activities. Therefore, for each activity performed, a table with the results obtained is shown.

#### 3.3.1 Website

A project website has been developed containing the main information regarding the project, its events and initiatives, its partners and recent news. The website's address <a href="http://www.aristotele-ip.eu/">http://www.aristotele-ip.eu/</a> has been acquired.

The web site was opened to public access in March 2011 and has been registered within Google Analytics in order to monitor the traffic and to evaluate which initiatives are more effective.

After the 1<sup>st</sup> Review Meeting, the site has undergone a relevant restructure to allow a more effective and harmonic communication of project activities and outputs and to collect interest among stakeholders.

Thanks to the increasing availability of the project results (in terms of scientific papers, approved deliverables, etc.), it has been possible to start a significant content enrichment.

The content and services enrichment of the website has continued in the 3rd year of the project with a main focus on ARISTOTELE as a product. More specifically the following actions have been considered:

- General look&feel and user experience improvement.
- The current "Download Area" has been renamed as "Results" and now contains the "results" of the project in terms of published papers, deliverables, studies (focus groups outcomes, evaluation outcomes) and promotional material organized per year. For each one of these contents, a subsection has been realized.
- Contents related both to scientific (methodologies) and industrial/business aspects have been uploaded into new sections called "Methodologies" and "Industrial Awareness".
  - o "Industrial Awareness" section aims at highlighting: the added value of ARISTOTELE modules; how much has been done to test and validate this added value; what are the possible business scenarios.
  - o "Methodologies" section is conceived to give evidence to the exploitable knowledge acquired through the ARISTOTELE project.
- A registration form has been put on the website in order to allow users to receive updates and notifications from the website.
- A Twitter widget that displays all current tweets on ARISTOTELE key topic in real time has been added to the home page of the website.
- With a view to the applications developed as separate software tools from ARISTOTELE research (i.g. CV Analyzer), the website now contains a dedicated box with links to the marketplaces. (Apple, Google, Microsoft).









Figure 3 ARISTOTELE website: Apps box

#### 3.3.1.1 Website Traffic Results

Specific Key Performance Indicators (KPIs) have been defined in order to evaluate the results of ARISTOTELE website in terms of visits and visitors.

Furthermore, in order to have a better comprehension of the results obtained by ARISTOTELE website, a benchmark value has been built for comparison. The average value has been built taking into account the quantitative results gained by the websites of EU FP7 Projects in which some of ARISTOTELE academic partners were involved.

Table 3 Website Traffic Results (Period: 19<sup>th</sup> July, 2012 - 31<sup>th</sup> December, 2013, Source: Google Analytics

KPI	What indicates	n.	n. per month	Benchmark value
No. visits	The number of visits is the main metrics to measure the performance of search engine and marketing activities	10.321	584	98 visits/month
Unique Visitors	The number of visitors is the main metrics to analyze the users behaviors on site	6.832	386	61 unique visitors/month
Page View	The number of total pages views and page views per visitors is the main metrics to analyze content management performances and usability and accessibility of a website.	23.153	1.310	304 views/month







Pages/Visit	A large number of high page views per visit suggests that visitors interact extensively with the site	2,24	-	3,1
Average visit duration	Average time spent on the website	00:02:34	-	00:02:20

The results related to the actions performed by the users on ARISTOTELE website demonstrate a good level of engagement with the available contents, as shown in the table below:

Table 4 Call to action metrics (Period: 19<sup>th</sup> July, 2011 2012 - 31<sup>th</sup> December, 2013), Source: Google Analytics

KPI	What indicates	n.
N. Download	Downloads number could depend on page structure (accessibility and usability) and on quality of content that users could download.	

The table below contains the list of the most visited web page of ARISTOTELE website. The fact that the "Download Area" is the second most visited section after the homepage, provides some useful insight about ARISTOTELE online audience: at the moment, users are mostly interested in the outcomes of the project in terms of deliverables and papers.

Table 5 Top 10 web pages - (19<sup>th</sup> July, 2011 2012 - 31<sup>th</sup> December, 2013, Source: Google Analytics)

		is outy, zorr zorz br becember,	
Rank	URL	Description	Page Views
1.	/	Homepage	10.811
'''	,	Homepage	10.011
2.	/project	Aristotele Project	745
	, p. 0,000	7 ii istotete i Tojece	7 .5
3.	/download	Download	578
4.	/partners	Partners	453
	'		
5.	/news	News	366
			200
6.	/events	Events	329
-	, , ,	NAT 1 1	244
7.	/workplan	Workplan	311
8.	Inross	Press Release	292
٥.	/press	Press Release	292
9.	/manstruc	General Management Structure	273
7.	/ IIIaIISU UC	General Management Structure	L13
10.	/download	Results	241
10.	/ downtoad	Nesults	2 <del>7</del> 1
_			

More specifically the following table lists the most downloaded contents from ARISTOTELE website.







Table 6 Top Downloaded Contents - Internal RHW source

Rank	Content	Description
1.	ARISTOTELE presentation at CISIS 2012	Slide presentation
2.	Design Principles for Competence-based Recommender Systems	Abstract
3.	The Social Semantic Enterprise	Abstract
4.	ARISTOTELE presentation at SOA-KME 2012	Slide presentation
5.	CR2S: Competency Roadmap to Strategy	Abstract
6.	Interfaces between Human Resource Management and Knowledge Work Practices	Abstract
7.	ARISTOTELE Official Brochure	Abstract
8.	Managing Semantic Models for representing Intangible Enterprise Assets	Abstract
9.	Integrating Trust and Competency Management to Improve Learning	Abstract
10.	Social Semantic Web Fosters Idea Brainstorming	Abstract

The most downloaded was "ARISTOTELE presentation at CISIS 2012" and this is a signal of the visibility gained by the project during the 6<sup>th</sup> International Conference on Complex, Intelligent, and Software Intensive Systems (CISIS-2012).

With respect to demographic information about site visitors, while in 2012 the countries with the highest number of visitors were the ones of the partners (Italy, Austria, Germany, Slovenia), in the third year of the project also UK, , Spain, USA, France and Georgia generated significant amounts of traffic.

#### 3.3.2 ARISTOTELE Newsletter

A dedicated "Newsletter" will act as periodic bulletin to show project highlights, such as latest news, results and events announcements of the moment.







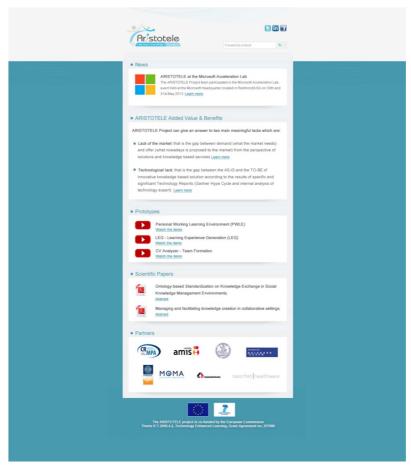


Figure 4 Newsletter Layout Proposals

As mentioned above, a registration form has been put on the website in order to allow users to register to the newsletter.

#### 3.3.3 Press Release

After the first press release (PR) in Italian ("Progetto Europeo ARISTOTELE, la risposta alle aziende per affrontare la crisi") providing background information on project initiatives and results, a new PR has been edited in occasion of the participation to the Microsoft Acceleration Lab, event held at the Microsoft Headquarter located in Redmond/USA on 30th and 31st May 2013.

A new activity of scouting and evaluation of the available channels to activate to disseminate press release has been carried out.

The Annex C lists the PR sites which the registration of ARISTOTELE project has been successful in and the links to the relative press releases that have been published so far.

In addition to the international publication, the following national publications have been realized by AMIS and MOMA, respectively in Slovenia and Italy:

- Il web semantico secondo MOMA (The semantic web according to MOMA), published on the daily online newspaper zeroventiquattro.it on 24th January 2013;
- Finance (national newspaper), published on 22th November, 2012;
- Računalniške novice (Slovenian computer magazine), published on 23th November, 2012Preberi.si (Slovenian news portal), published on 23th November, 2012Press release results.

The following table contains the quantitative results obtained with the activity of press release.







Table 7 Press release results

Metrics	Results
ONLINE	PRESS RELEASE
N. of website contacted	15
N. of press releases published	5

#### 3.3.4 Web 2.0 tools: Facebook, LinkedIn & Twitter, YouTube

During the first year of the project Facebook, LinkedIn and Twitter accounts were activated in order to start discussions, to publish news, share materials and create communities of interest around the project.

In order to give more evidence to ARISTOTELE presence on social networks a dedicated space with social media buttons has been foreseen on the website.

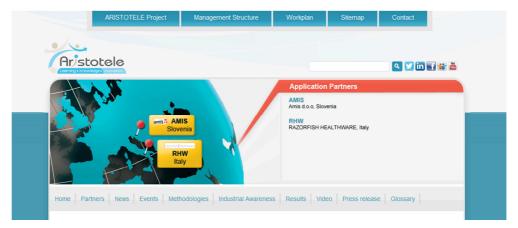


Figure 5 Social Media Buttons

Furthermore, as mentioned before, a Twitter widget that displays in real time all current tweets on ARISTOTELE key topic has been added to the home page of the website.









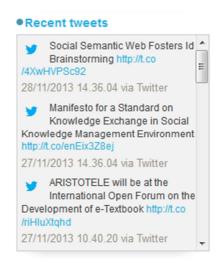


Figure 6 Twitter Widget

In order to assure a continuous flow of social networks updates, packages of posts are periodically created by RHW to assure at least a post per day (see: Annex D: ARISTOTELE Social Network Editorial Plan).

The copy strategy beneath the 2013 editorial plan consisted in the creation of messages launching all the main contents and services present on the project website. Furthermore, on 16<sup>th</sup> of November 2012, a YouTube ARISTOTELE account has been created as further channel of communication to the outside world not only to host the promotional videos realized by MOMA to demonstrate capabilities of ARISTOTELE tool, but also to publish videos of events, keynote speeches, slideshows.

A custom background and a cover image have been realized for giving the channel a branded look&feel.

At first the channel hosted three promotional videos about LEG, PWLE and HRM tools and the ARISTOTELE General Demo.

Later, all the slide presentations realized during the three years of the project lifecycle have been converted into video contents and loaded to the YouTube Channel.

The 19 videos uploaded to the YoutTube channel have been embedded into the website and a clickable button with a direct link to the YouTube account has been added also to the website in the social media buttons dedicated space.







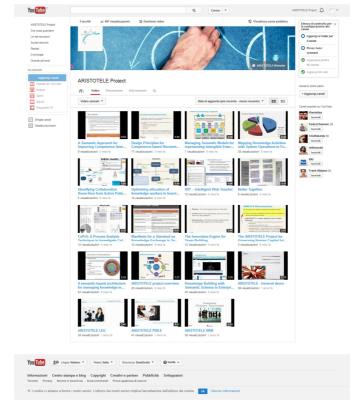


Figure 7 ARISTOTELE YouTube Channel







#### 3.3.4.1 Web 2.0 tools results

The following table contains the quantitative results obtained by Web 2.0 channels from the activation date of each social network to 31<sup>st</sup>th December, 2013

Table 8 Web 2.0 tools results

Metrics	Results
Facebook Fans	151 (+51 with respect to the 2nd year)
Twitter Followers	94 (+71 with respect to the 2nd year)
LinkedIn Group members	112 (+56 with respect to the 2nd year)
YouTube	506 views
Visits to the website coming from the links posted in ARISTOTELE Social Networks	819 visits (8% of the total traffic) from 19th July 2012 to 31th December 2013.

The following table contains the list of the 10 most viewed video of the YouTube Channel:

Video	Views	Average View Time	Data Published
ARISTOTELE - General demo	98	2:12	16-nov-12
ARISTOTELE HRM	58	0:55	16-nov-12
A semantic-based architecture for managing knowledge-intensive organizations	53	1:38	24-mag-13
ARISTOTELE PWLE	41	1:38	16-nov-12
ARISTOTELE LEG	38	0:24	16-nov-12
Mapping Knowledge Activities with System Operations to Foster Information Systems for Knowledge Work	35	0:52	24-mag-13
Knowledge Building with Semantic Schema in Enterprise: The ARISTOTELE Approach	23	0:32	24-mag-13
ARISTOTELE project overview	20	0:45	24-mag-13
Design Principles for Competence-based Recommender Systems	17	0:35	06-giu-13
Manifesto for a Standard on Knowledge Exchange in Social Knowledge Management Environments	12	2:12	24-mag-13

#### 3.3.5 Content seeding

A content seeding activity throughout the web has been carried out to spread the project results in terms of scientific papers, approved public deliverables, etc. and to activate also new social media channels.







A SlideShare<sup>1</sup> account has been created (http://www.slideshare.net/ARISTOTELE-IP) and 19 presentations related to events and keynote speeches have been uploaded in order to boost SEO and increase traffic to ARISTOTELE website.

A clickable button with a direct link to the SlideShare account has been added also to the website in the social media buttons dedicated space.

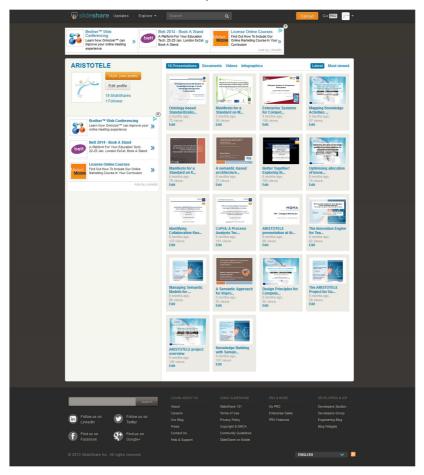


Figure 8 ARISTOTELE on SlideShare

The following table contains the list of the SlideShare presentations ordered by number of views.

Presentation	Views	Download
<ol> <li>Better Together: Exploring the Effects of Knowledge Application, Support for Innovation and Team Characteristics on Team Performance</li> </ol>	705	0
<ol><li>CoPrA: A Process Analysis Technique to Investigate Collaboration in Groups</li></ol>	181	0
<ol> <li>Identifying Collaboration Know-How from Action Patterns in Distributed Teams</li> </ol>	123	0
4. Knowledge Building with Semantic Schema in Enterprise: The ARISTOTELE Approach	107	1

<sup>&</sup>lt;sup>1</sup> SlideShare is a Web 2.0 based slide hosting service. Users can upload files privately or publicly in the following file formats: PowerPoint, PDF, Keynote or OpenDocument presentations. Slide decks can then be viewed on the site itself, on hand held devices or embedded on other sites. Launched on October 4, 2006, the website is considered to be similar to YouTube, but for slideshows.

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F ADICTOTEL Francisco et excernisco	10/	4
5. ARISTOTELE project overview	106	1
6. Enterprise Systems for Competence Development	106	0
7. ARISTOTELE presentation at the workshop "Informatics for enterprise processes"	96	0
8. The Innovation Engine for Team Building - The EU ARISTOTELE Approach From Open Innovation to the Innovation Factory	92	1
<ol> <li>Managing Semantic Models for representing Intangible Enterprise Assets: The ARISTOTELE Project Software Architecture</li> </ol>	86	0
<ol> <li>Design Principles for Competence-based Recommender Systems</li> </ol>	85	3
11. A Semantic Approach for Improving Competence Assessment in Organizations	82	0
12. Manifesto for a Standard on Knowledge Exchange in Social Knowledge Management Environments	79	0
13. Optimising allocation of knowledge workers to learning measures for competence development	78	1
14. Ontology-based Standardization on Knowledge Exchange in Social Knowledge Management Environments	72	0
15. Mapping Knowledge Activities with System Operations to Foster Information Systems for Knowledge Work	67	0
16. The ARISTOTELE Project for Governing Human Capital Intangible Assets	59	0
17. Manifesto for a Standard on Meaningful Representation of Knowledge in Social Knowledge Management Environments	56	0
18. A semantic-based architecture for managing knowledge- intensive organizations: the ARISTOTELE platform	37	0
19. ARISTOTELE at the Microsoft Acceleration Lab	19	0

It is worth mentioning that the most downloaded presentation is "Design Principles for Competence-based Recommender Systems" (downloaded three times), that is the ARISTOTELE presentation held at the 6th IEEE International Conference on Digital Ecosystem Technologies - Complex Environment Engineering (IEEE DEST - CEE 2012). Other specific accounts have been created within Scribd and Issuu. The following table contains the list of the Scribd presentations ordered by number of views.

Present	ation	Views
1.	A Semantic Approach for Improving Competence Assessment in Organizations	44
2.	A semantic-based architecture for managing knowledge-intensive organizations	55
3.	Managing Semantic Models for representing Intangible Enterprise Assets: The ARISTOTELE Project Software Architecture	43
4.	The Innovation Engine for Team Building	160
5.	Design Principles for Competence-based Recommender Systems	57
6.	Manifesto for a Standard on Knowledge Exchange in Social Knowledge Management Environments	63
7.	Better Together	86
8.	Optimising allocation of knowledge workers to learning measures for	38







competence development	
<ol><li>Identifying Collaboration Know-How from Action Patterns in Distributed Teams</li></ol>	49
10. Aristotele Presentation at Hsse2012 130	21
<ol> <li>CoPrA: A Process Analysis Technique to Investigate Collaboration in Groups</li> </ol>	30
12. IWT - Intelligent Web Teacher	58
13. Enterprise Systems for Competence Development	46
14. Enterprise Systems for Competence Development - Poster	11
15. Press Release Jun 2013	10
16. ARISTOTELE at the Microsoft Acceleration Lab	25

The following further table contains the list of the Issuu presentations ordered by number of impressions.

Presentation	Data Published	Impressions	Average Time Spent
<ol> <li>Manifesto for a Standard on Knowledge Exchange in Social Knowledge</li> </ol>	2. Sep 2013	201	03:30
2. Fostering adoption	2. Sep 2013	182	01:24
3. The Innovation Eng	2. Sep 2013	171	00:18
4. Identifying Collab	2. Sep 2013	128	00:24
5. <u>Methodologies to foster innovation</u> <u>factories</u>	3. Sep 2013	116	05:11
6. <u>Methodologies to exploit collaborative</u> <u>networks</u>	3. Sep 2013	111	00:26
7. <u>A semantic-based a</u>	2. Sep 2013	100	00:00
8. <u>Design Principles</u>	2. Sep 2013	93	00:00
9. <u>CoPrA: A Process A</u>	2. Sep 2013	92	00:07
10. ARISTOTELE present	2. Sep 2013	87	00:03
11. Manifesto for a St	2. Sep 2013	81	00:55
12. Ontology-based Sta	2. Sep 2013	75	00:00
13. CR2S: Competency R	3. Sep 2013	75	00:00
14. <u>SEMANTIC WEB SUPPOR</u>	3. Sep 2013	72	00:00
15. ARISTOTELE present	2. Sep 2013	58	00:00
16. <u>Better Together: E</u>	2. Sep 2013	57	00:00
17. WP5 – Methodologie	3. Sep 2013	55	00:00
18. Optimising allocat	2. Sep 2013	49	00:08
19. Methodologies to F	3. Sep 2013	43	00:00
20. <u>Aristotele project</u>	2. Sep 2013	32	00:00
21. Knowledge Building	2. Sep 2013	31	00:00
22. <u>The ARISTOTELE Pro</u>	2. Sep 2013	29	00:00
23. Managing and facil	2. Sep 2013	28	00:00
24. ARISTOTELE at the	6. Sep 2013	8	00:18
25. Enterprise Systems	2. Sep 2013	2	01:37
26. ARISTOTELE poster	2. Sep 2013	1	00:00
27. <u>The European proje</u>	6. Sep 2013	0	00:00







#### 3.3.5.1 Content seeding results

The following table contains the results registered by the overall content seeding activity.

Channel	Metrics	Results
SlideShare	Views	2.236
Scribd	Views	796
Issuu	Impressions <sup>2</sup>	1.977

#### 3.3.6 Link popularity building

In order to increase the volumes of traffic to ARISTOTELE website and to optimize the ranking of the site itself in search engine results, all the partners were invited to put links to the website within their corporate websites or blogs or portals. This activity generated to ARISTOTELE website 239 visits (Period: 19th July, 2012 - 31stth December, 2013, Source: Google Analytics).



Figure 9 ARISTOTELE in Google results

<sup>&</sup>lt;sup>2</sup> An impression (in the context of online advertising) is a measure of the number of times an ad is displayed, whether it is clicked on or not.[1] Each time an ad displays it is counted as one impression







#### 3.3.7 Google Adwords Campaign

Search Engines are the first access point to find information online (Pew Internet, Search Engine Use 2012). Establishing a presence on Search Engines ensures to the website traffic and brand awareness.

With this in mind a keyword advertising campaign has created to ensure that all relevant searches on Google will result in an advert appearing in Google's sponsored listings.

The Adwords campaign has been optimized and adapted in accordance with users local behaviors and has spread the ARISTOTELE project awareness, within the identified target and overall when users are in a captive mindset.

The campaign, started on 9<sup>th</sup> September and ended on 12<sup>th</sup> November 2013 was based on three main groups of ads reflecting also the three thematic areas of the exploitation activity performed (see D15.4 "Final Exploitation Plan", paragraph 2 "Summary of Partners Exploitation Activities"):

- a group of generic keywords related to e-Learning & Collaboration;
- a group of keywords related to Semantic Technologies for the management and optimization of corporate and business processes;
- a group of specific keywords related to Human Resource Management.

For each area, we selected a list of words (resulted from a match between the contents present on ARISTOTELE website and the keywords suggested by the tool provided by Google Adwords) to which we have associated two thirds creativity (extracted and processed from the analysis of and content of the video on the website.)

#### 3.3.7.1 Google Adwords Campaign results

The following table contains the results registered by the Google Adwords Campaign.

Ads Group	Clicks	Views	CTR
Learning	3.842	227.622	1,69%
Knowledge management	219	39.381	0,56%
Organizational processes	56	11.138	0,50%
Total	4.117	278.141	1,48%

Figure 10 Google Adwords Campaign results

The group of ads that registered the highest numbers of clicks is Learning.

The most clicked keywords were:

- accelerated learning (2.327 clicks);
- learning (408 clicks);
- online learning (188 clicks).







#### 4. Scientific Dissemination

This section is intended to show in detail the results of the activities performed for the purpose of scientific dissemination. The following tables indeed report the information about papers published in leading international Journals and in proceedings of International Conferences and Workshops attended during the third year of the project.

Specifically, table 9, gathers information about Journals and/or books, with indication of IF>1, as already mentioned and recommended by the reviewers' indicators, and with regards to the following selected fields:

- Knowledge Management;
- Artificial & Computational Intelligence;
- Systems & Architectures;
- Semantic and Social Web;
- e-Learning.

Table 9 -3rd year - Journals and books/books' chapter

Date	Journal/Book	Contribution	Partners Involved	IF
2013	BOOK Studies in Fuzziness and Soft Computing	Book's chapter: Fuzzy Conceptual Data Analysis Applied to Knowledge Management	CRMPA	
2013	JOURNAL Group Decision and Negotiation	Macrocognition in Collaboration: Analyzing Processes of Team Knowledge Building with CoPrA	UIBK	1.017
2013	JOURNAL Applied Intelligence Journal	Formal and relational concept analysis for fuzzy-based automatic semantic annotation	CRMPA	1.853
2013	JOURNAL IEEE transaction on Systems, Man and Cybernetics: Part A (under 2 <sup>nd</sup> review cycle)	S-WOLF: Semantic Workplace Learning Framework	CRMPA	2,103

Table 10 reports the list of papers submitted to International Conferences and Workshops and accepted for publication under the following topics:







ORGANIZATIONAL PROCESSES ANALYSIS - DECISION SUPPORT FOR HRM - KNOWLEDGE BUILDING MODELS - SOCIAL COLLABORATION - LEARNING EXPERIENCE GENERATION - ASSESSMENT METHODOLOGIES AND VALIDATION - SYSTEM AND ARCHITECTURE- INNOVATION -SEMANTIC AND SOCIAL WEB - PWLE

Table 10 - 3rd year - Conferences/Workshops

	Table 10 - 3rd year - Conferences/Workshops			
Date	Conference/Workshop	Contribution	Partners Involved	
2012	In: Springer Berlin Heidelberg. 13th International Conference on Web Information Systems Engineering	A Semantic-Based Architecture for Collaborative Enterprise Management: The ARISTOTELE Platform	CRMPA	
2012	In: SITIS 2012. Workshop on MTSK: Methods, models and technology for semantic-driven knowledge building, in conjunction with the IEEE 8th International Conference on Signal Image Technology and Internet Based Systems.	A Semantic Approach for Continuous Assessment in Organizations.	CRMPA	
2012	In SITIS 2012. Workshop on MTSK: Methods, models and technology for semantic-driven knowledge building, in conjunction with the IEEE 8th International Conference on Signal Image Technology and Internet Based Systems.	Exploiting semantic models and techniques to evaluate relevance of human resources in knowledge intensive organizations	CRMPA	
2012	1st Workshop on Engineering the Semantic Enterprise (ESE2012) in conjunction with The 13th International Conference on Web Information Systems Engineering (WISE 2012)	A Semantic-Based Architecture for Managing Knowledge- Intensive Organizations: The ARISTOTELE Platform	CRMPA MOMA	
2012	In: SITIS 2012. Workshop on MTSK: Methods, models and technology for semantic-driven knowledge building, in conjunction with the IEEE 8th International Conference on Signal Image Technology and Internet Based Systems.	Towards a Collaborative Innovation Catalyst	UNIMI	
2012	In: SITIS 2012. Workshop on MTSK: Methods, models and technology for semantic-driven knowledge building, in conjunction with the IEEE 8th International Conference on Signal Image Technology and	Exploiting Participatory Design in Open Innovation Factories	UNIMI	







	Internet Based Systems.		
2012	In: SITIS 2012. Workshop on MTSK: Methods, models and technology for semantic-driven knowledge building, in conjunction with the IEEE 8th International Conference on Signal Image Technology and Internet Based Systems.	Mapping Knowledge Activities with System Operations to Foster Information Systems for Knowledge Work	UIBK
2012	The 6th IEEE International Conference on digital ecosystems technologies, complex environment engineering (DEST2012)	Design principles for competence-based recommender systems	UNIMI
2013	Proceedings of the 46th Annual Hawaii International Conference on System Sciences	Better Together: Exploring the Effects of Knowledge Application, Support for Innovation and Team Characteristics on Team Performance	UIBK
2013	The 7th IEEE International Conference on Digital Ecosystems and Technologies (DEST2013)	CoPrA: A Tool For Coding and Measuring Communication In Teams	UNIMI
2013	The 2013 IEEE International Conference on Systems, Man, and Cybernetics (SMC2013)	Boosting the Innovation Process in Collaborative Environments	UNIMI
2013	The 3rd International Conference on Social Computing and its Applications.		UNIMI
2013	Proceedings of the 13th International Conference on Knowledge Management and Knowledge Technologies (i-Know '13)	Facilitating Team Processes with Recommender Systems: A Behavioral Science Perspective	UIBK
2013	AINA 2013 - NetVe 2013 IEEE International Conference Barcelona, Spain	ARISTOTELE: A semantic-driven Platform for Enterprise Management	CRMPA
2013	Proceedings of the IEEE International Conference on Systems, Man and Cybernetics - SMC 2013	Identifying consonance relationships between workers and organizations for fostering creativity: a knowledge based	CRMPA







		approach	
2013	,	Computer-Supported Collaboration Environments and the Emergence of Collaboration Aspects	UIBK

Besides the journals and conferences indicated in the two above lists, the following information refer to scientific events like **keynote speeches** and other presentations during which partner's speakers had the opportunity to disseminate the results of the ARISTOTELE project and contribute to its international visibility.

Table 111 - 3rd year - Keynote Talks in Conferences

		te ynote Tunts in Conferences	
Date	Conference/Workshop	Contribution	Partners Involved
4/07/2012	The Sixth International conference CISIS 2012 - Palermo, Italy	Keynote talk: on "Knowledge Building with Semantic Schema in Enterprise: The ARISTOTELE Approach"	CRMPA
7/11/2013	AeLC in Vienna	Keynote talk: The future of eLearning - Open Learning and beyond	UDE
28/11/2013	International ETESBS Conference 2013 in Shanghai	Keynote talk: Quality Development, Evaluation and Impact Measurement in Learning (On: ARISTOTELE "Personalised Learning & Collaborative Working Environments Fostering Social Creativity and Innovations inside the Organisations")	UDE

Table 122 -3rd year - Talks/presentations in Conferences

ruble 122 Sta year Tallo, presentations in contenences			
Date	Conference/Workshop	Contribution	Partners Involved
4/16/2013	Days of Slovenian Informatics, DSI-2013 Congress Center Grand Hotel Bernardin, Portorož, Slovenia	ARISTOTELE - A new approach to learning organisation and innovation	AMIS
4/24/2013	Invited Lecture at TUG - Technical University of Graz, Graz, Austria Janez Hrastnik	Business Processses, Project Management & ARISTOTELE	AMIS
3/27/2013	AINA 2013 - NetVe 2013 Barcelon, Spain	ARISTOTELE: A semantic-driven Platform for Enterprise Management	CRMPA







#### 4.1 Analysis of the Scientific Dissemination

As suggested by the reviewers, and according to the specific indicators, all scientific conferences & workshops attended in the third year, were attentively selected basing on the acceptance for publication on international journals and also included information about journal's impact factor.

According to the above, the objective of having 4 papers in journals with impact factor >1 within the end of the project is fulfilled. In particular, in this third period the partners have increased the number of publications in journal with impact factor >1 from the previous total of 3 to 5, which papers, it is worth noticing, were published by two diverse partners (CRMPA and UIBK). We also add to these results 1 publication as a Book Chapter. It is worth mentioning that 1 more paper has been published on journal with Impact Factor < 1<sup>3</sup> and another paper is actually under review on a IEEE transaction journal (SMC).

Specifically, as regards the journals, the number of papers published in the considered period, namely the third year of the project (01/07/2012 to 31/12/2013) is as follows:

- 2 papers in journals with IF >1;
- > 1 chapter published in Book.

Furthermore, the total number of produced publications accepted in conferences and workshops are compliant with the fixed goal of **30** papers within the end of the project. In particular, the contributions from all project partners in this third period result in 16 new papers, added to the 15 ones of first two years of the project.

The dissemination activity conducted through the publication of scientific papers in proceedings of conferences and workshops, that according to the above cited guidelines are published by IEEE Society, ACM Society, Springer-Verlag, Elsevier, or indexed by Scopus, is the following:

- 9 accepted papers in International Conferences;
- > 7 accepted papers in International Workshops.

All the scientific publications mentioned above, together with keynote speeches and other talks have been listed in the above Table 9, Table 10,11 and 12.

In consideration of the very good opportunity for dissemination activities that keynote speeches at international conferences may represent, an important workshop will be organized in 2014, hosted and promoted by the University of Salerno, in the person of Pierluigi Ritrovato. The workshop will be organized inside the 6th IEEE International Conference on Intelligent Networking and Collaborative Systems (INCoS-2014), September 10th -12th, 2014, Salerno, Italy <a href="http://voyager.ce.fit.ac.jp/conf/incos/2014/">http://voyager.ce.fit.ac.jp/conf/incos/2014/</a>

and it will greatly contribute to disseminate the results of the ARISTOTELE project and its international visibility.

<sup>&</sup>lt;sup>3</sup> G. Rita Mangione, F. Orciuoli, P. Ritrovato, S. Salerno - Semantic web for supporting personal work and learning environment creation. Journal of Web Engineering, vol. 12, p.439-456, ISSN: 1540-9589







#### 5. Conclusions

With respect to industrial dissemination, the above mentioned activities find a reason why in the need of allowing ARISTOTELE to be present not only in the official "windows website" of the project, but also in those places of the web which are most popular(content sharing platforms, social networks, social media channels, search engines). The actions carried out demonstrated to be useful to place the project itself on the first pages of Google results (when a search with keywords "aristotele" and "project" is performed). It is worth mentioning that part of the results derive from social network (Facebook), social media (YouTube) and content sharing platforms (Slideshare, Calameo).

As regards the Scientific Dissemination, the published works and related activities of dissemination have followed and satisfied the two main objectives foreseen for the last phase of the project life-cycle:

- Complying with the fixed guidelines and fulfilling the approved indicators and goals (see the Plan described into section "Journals and books/books 'chapter)
- Supporting the exploitation activity, in particular in order to exploit the Exploitable Knowledge produced by ARISTOTELE within other research projects. This has represented an important opportunity considering that the reuse of ARISTOTELE in other projects also allowed the inclusion (and for some cases the extension) of its results in other exploitation plans (see Deliverable 15.4 "Final Exploitation Plan" <u>Annex B Detailed description of the use</u> of the exploitable knowledge by CRMPA and MOMA).







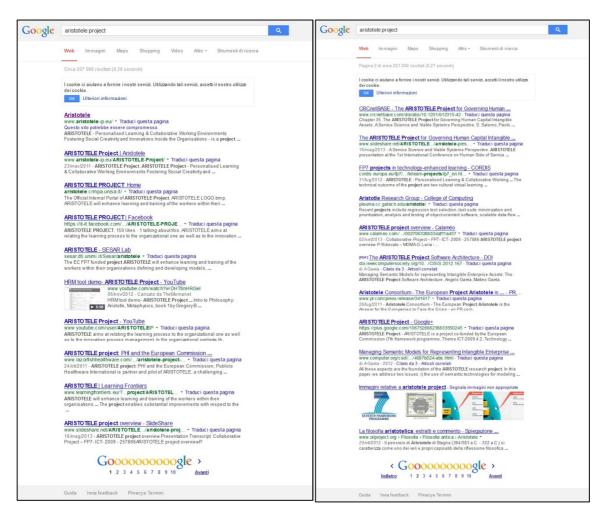


Figure 11 ARISTOTELE on Google results

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- 1. Pew Internet, Search Engine Use (2012), Pew Research Center's Internet & American Life Project, http://pewinternet.org/Reports/2012/Search-Engine-Use-2012.aspx
- 2. Deliverable 15.4 "Final Exploitation Plan" Annex B Detailed description of the use of the exploitable knowledge by CRMPA and MOMA 31-Dec-13.







#### Annex A Abstracts of published papers

In Journals

#### Fuzzy Conceptual Data Analysis Applied to Knowledge Management

Conceptual data analysis has been extensively exploited to support Ontology Learning, Information Retrieval, and so on. This work emphasizes the relevant role of uncertainty in the conceptual data analysis. Specifically, Fuzzy Conceptual Data Analysis has been exploited to address two Enterprise Knowledge Management methodologies: domain ontology learning and ontology merging.

### Macrocognition in Collaboration: Analyzing Processes of Team Knowledge Building with CoPrA

Sophisticated collaboration software allows teams that are dispersed in space and time to work together. Nevertheless, to reach their common goals, distributed teams—and the professional facilitators who support them by intervention techniques—are faced with the communication challenges arising from dispersed settings, including task coordination and effective information exchange. When distributed teams use collaboration software, however, traces of their collaboration are left behind. These traces provide an underused source of data which can be analysed and be used to inform the design of interventions aimed at improving collaboration in distributed teams. This paper investigates the untapped potential for understanding collaboration, and in particular, the macro-cognitive processes of team knowledge building. These processes rely on information shared and knowledge structures developed by team members which are also referred to as team cognition. We performed a qualitative content analysis applying the COllaboration PRocess Analysis technique, CoPrA, and a framework for measuring team knowledge building. Communication data was collected from 18 participants assigned to six distributed teams. While working collaboratively on a problem-solving task teams were supported with synchronous collaboration software. The results show that by using a cognitive perspective on teams, all the hypothesized processes of team knowledge building could be identified in collaboration traces. Moreover, our analysis shows that CoPrA enables us to identify key characteristics of (1) team behaviour, e.g., whether teams are rather solutionoriented or problem minded, show consensus-oriented behaviour, withhold evaluative arguments, discuss ideas in breadth and/or depth, or spend much effort on coordination as well as (2) behavior of team members, e.g., who show non-participation, are willing to share or predominantly guide coordination. Future research could adopt this approach to improve our understanding of the dynamics of collaboration patterns and its effects on team performance to inform collaboration facilitation in distributed settings.

### Formal and relational concept analysis for fuzzy-based automatic semantic annotation

Semantic annotation is at the core of Semantic Web technology: it bridges the gap between legacy non-semantic web resource descriptions and their elicited, formally specified conceptualization, converting syntactic structures into knowledge structures, i.e., ontologies. Most existing approaches and tools are designed to deal with manual or semi-/automatic semantic annotation that exploits available ontologies through the pattern-based discovery of concepts. This work aims to generate the automatic semantic annotation of web resources, without any prefixed ontological support. The novelty of our approach is that, starting from web resources, content with a high-level of abstraction is obtained: concepts, connections between concepts, and instance-population are identified and arranged into an ex-novo ontology. The







framework is designed to process resources from different sources (textual information, images, etc.) and generate an ontology-based annotation. A data-driven analysis reveals the data and their intrinsic relationships (in the form of triples) extracted from the resource content. On the basis of the discovered semantics, corresponding concepts and properties are modeled, allowing an ad hoc ontology to be built through an OWL-based coding annotation. The benefit of this approach is the generation of knowledge structured in a quite automatic way (i.e., the human support is restricted to the configuration of some parameters). The approach exploits a fuzzy extension of the mathematical modeling of Formal Concept Analysis and Relational Concept Analysis to generate the ontological structure of data resources.

### Semantic web for supporting personal work and learning environment creation.

The ARISTOTELE European project investigates the concept of Personal Work and Learning Environment (PWLE), an approach allowing workers, seen as "lifelong learners", to benefit from - and contribute to - collective knowledge within their organization. The PWLE is a personal digital environment assisting workers in their knowledge cycle. Specifically, the PWLE makes it easy to transform workers' tacit knowledge into explicit knowledge, and helps them to contribute to collective knowledge that they can exploit for learning and work purposes. By facilitating the modeling, representation and accumulation of collective knowledge, Semantic Web technologies support PWLE processes for continuous learning in enterprises.

#### In Conferences/workshops

### A Semantic-Based Architecture for Collaborative Enterprise Management: The ARISTOTELE Platform

We present the semantic-based architecture of the ARISTO-TELE platform, which is founded on the definition and development of models, methodologies, technologies and tools to support the emergence of competences and creativity within workers by self-organizing acquisition, processing and sharing of new information inside knowledge-intensive organizations. ARISTOTELE's architecture relies on semantic data by means of a number of conceptual models, which define the context of interest for an enterprise via a set of concepts and relationships among them. Instances of these models are used to annotate content data, thus creating a semantic network of information that actualizes the Linked Data paradigm within the information space of an organization. In this paper we describe the building elements of the ARISTOTELE platform, the conceptual models which lie behind them and the core Linked Data Layer component responsible of managing information for the whole system.

#### A Semantic Approach for Continuous Assessment in Organizations.

Assessing employees' competences to properly support Competence-based Management processes (e.g. Career Development, Workforce Planning, etc.) in Organizations is a complex task. Difficulties concern with both the right assessment methodology and the most effective tools. Moreover, the assessment process is time-consuming both for assessors and assesses and often it is performed at the wrong time with considerable costs for external resources. This work proposes a novel approach, based on semantic technologies, to enhance competence assessment in Organizations by analysing content produced, tasks completed and professional relationships established by employees in their day by day activities at the workplace.







## Exploiting semantic models and techniques to evaluate relevance of human resources in knowledge intensive organizations

This paper reports the results of the ARISTOTELE methodology for decision support on Human Resource Management and, in particular, of one of the most important tool of the methodology, i.e. the Relevance Analysis. The Relevance Analysis is devoted at providing a systemic way to map human resources on the basis of their relevance in an organization, and take informed decisions. We have defined a model and a methodology to quantify relevance of the human resources with respect to key processes of an organization. Relevance is a combination of two factors: i) Criticality, an attribute to establish the attention degree that the organization must pay to assess the importance of human resource, ii) Influence, an attribute to establish the degree of influence the human resource can exert in placing limits, indicating rules and regulations in the organization and with other human resources. We will show how exploiting the ARISTOTELE results on the semantic models and semantic Social Network Analysis is possible to quantify the Criticality and Influence of human resources in a knowledge intensive organization.

#### **Towards a Collaborative Innovation Catalyst**

This position paper is aimed at highlighting the potential connection between Pervasive Systems and Collaborative Innovation. In particular, we discuss the architectural structure of an Innovation Catalyst supporting a collaboration methodology based on the Open Innovation paradigm. Our system is conceived for stimulating the collaborative dynamics of a team, exploiting all the information produced in the collaborative environment, including situational context, communication in team interactions, and personal behaviours. The results of our work can contribute to a more general understanding of the elements that catalyse collaborative innovation.

#### **Exploiting Participatory Design in Open Innovation Factories**

In this paper we describe a methodology and a set of tools that support the exploitation of ideas, suggestions and proposals coming from different sources, internal and external to the organization (e.g. customers and employees). Items extracted from incoming message flows are used as a basis of a participatory design process. In this context, we discuss the design principles of an environment we call Open Innovation Factory, supporting collaborative design of new products and services.

### Mapping Knowledge Activities with System Operations to Foster Information Systems for Knowledge Work

The (semi-) automatic detection of a user's system activity provides context that can be exploited for information retrieval, for recommendations or for adapting contents and services to this activity and thus improve task-technology-fit. Various approaches automatically detect user activities on the level of system operations. However, the approaches struggle with the challenge how to semantically connect these system operations with high level knowledge activities. Yet, this link is needed to meaningfully support users engaged in knowledge activities. This paper takes up on this challenge and maps a framework of knowledge activities to system operations on the basis of descriptions of work practices gathered from two European companies. The framework is intended to aid the meaningful connection of automatically detected system operations with knowledge activities on varying levels of granularity.







#### Design principles for competence-based recommender systems

In this paper we analyse the principal preconditions and limitations for designing a competence-based Recommender System. In detail this analysis is contextualized in the ARISTOTELE European project. In the second part of the paper an architectural view is proposed taking in consideration the objective to propose standard and non-standard suggestions. This solution will permit to insert serendipity approaches into classical solutions.

### Better Together: Exploring the Effects of Knowledge Application, Support for Innovation and Team Characteristics on Team Performance

In the context of designing supportive organizational and IT-based measures, understanding the effects of knowledge application and the support for innovation in different team settings are topics that have received increased scholarly attention. While the effects of knowledge application and support for innovation have been investigated and confirmed independently from each other, their joint influence in connection with team characteristics remains unexplored. This paper fills this gap by examining how and why team characteristics, such as task organization, task non-routine ness, IT support and the integration of expertise, come to affect team performance. Our analysis of survey data collected from 203 team members in two medium-sized organizations suggests that the factors 'knowledge application', 'support for innovation', 'task organization' and 'IT support' all exert some influence on team performance. Additional focus group data provided insights into measures, which organizations and managers can adopt to improve the performances of their teams.

#### CoPrA: A Tool For Coding and Measuring Communication In Teams

The analysis and assessment of team processes to inform facilitation for increased team effectiveness is a challenging task for organizations. Also, research has troubles to grasp the complexity of team effectiveness, which often results in treating team processes as a black box. This paper introduces a design artefact that is built upon the collaboration process analysis technique CoPrA. The technique strives to support the analysis of team processes by identifying behaviour patterns, which crystalize as behaviour patterns in the dynamic process of a team. The paper aims to contribute to behavioural research as it showcases a set of process metrics for the analysis of team communication. Furthermore, the paper aims to contribute to design-science research by providing an integrated tool for content analysis and process mining used primarily by researchers.

#### **Boosting the Innovation Process in Collaborative Environments**

In this paper we propose a new architecture and methodology to define a collaborative environment aimed at supporting the innovation process. In the first part of this paper we analyse the data collected during an experiment for testing a collaborative environment and, in the second part, we propose an architecture to support and stimulate innovation processes. Our solution is based on three components, namely a (i) collaborative platform, (ii) a tool able to extract knowledge from shared documents, external data sources, and collaborative activities, and (iii) a recommender system. More specifically, we focus on how knowledge items are extracted from incoming knowledge flows to be proposed to a team, whose members are capable of proposing values for design issues and/or evaluating these choices from her own specific perspective. Furthermore, the aim of the proposed framework is not limited to the selection of relevant knowledge but, more broadly, on aligning the team on a restricted set of







information items, producing a convergence of objectives that accelerates the kinetics of the collaborative work.

### Testing Social Network Metrics for Measuring Electoral Success in the Italian Municipal Campaign of 2011

It is often argued that the bias hidden in Social Media data prevent from using them for any statistical inference. In this paper, we investigate the practicability of a new method for predicting electoral outcomes that is less affected by demographics and self-selection bias. In particular, we put in place a first test to understand which social network analysis metrics can exhibit positive correlation with electoral success. Our analysis is not intended to use social media audience as a sample of the whole electorate but just as a sample of the supporters of a candidate. In conclusion, we speculate on the information we can extract measuring the social network of the groups of supporters. Essentially, we get an overview on the variety and extent of the segments of the population represented in these groups, and this probably correlates with the capacity to attract consensus.

### Facilitating Team Processes with Recommender Systems: A Behavioural Science Perspective

This position paper argues that recommender systems should be considered as fully automated facilitators having positive impact on team processes and consequently on team effectiveness. The paper builds upon the general organizational need to improve teams' processes to enhance and sustain team effectiveness. However, current research on facilitation is little synthesized across research disciplines and typically focuses on the end-product of collaboration rather than on the team process itself when assessing team effectiveness. This paper puts forward the idea that today's recommender systems, or more specifically, their recommendations, already provide content facilitation and technical facilitation, respectively. Little is known about their theoretical grounding in behavioural sciences a well as the impact of recommendations on team processes. A research agenda is presented in the form of a discussion.

#### ARISTOTELE: A semantic-driven Platform for Enterprise Management

We present the architecture of the ARISTOTELE platform, a semantic-based collaborative system for managing enterprises and organizations, specifically designed to include a variety of features. These range from top-level functionalities like managing enterprise processes and building innovation, to finer-grained tasks like customized support for the daily activities of workers, including the creation and execution of personalized learning activities via an adaptive/non-adaptive strategy and the acquisition and usage of collaborative knowledge by the members of the organization. Here, we motivate ARISTOTELE's compliance with a known Enterprise Architecture framework and describe the design methodology behind the platform and its building blocks, beginning with its data layer and then proceeding to detailing its core services and the higher-level tools built on top of them.

### Identifying consonance relationships between workers and organizations for fostering creativity: a knowledge based approach

We present our preliminary results in the definition of a model and knowledge based techniques to support creativity by establishing consonance relationships between a worker and the







organization. The model is based on the Viable Systems Approach (VSA) and links this theory with Creativity and Open innovation via the definition of proper consonance and resonance relationships. VSA is an interdisciplinary approach grounded on systems thinking and resource-based theory, and focused on methodologies to govern relations among supra-systems and subsystems. Leveraging on the systems perspective of the creativity proposed by Csikszentmihalyi, we defined a way to analyse and understand how the variety introduced by workers in organization can lead to novel and useful products and services. We present also our preliminary results on how a well-defined set of knowledge based methodologies and techniques, resulting from the ARISTOTELE research project, can be applied to this purpose in the context of a Geneplore model. We believe our proposal, i.e. the application of VSA methods combined with knowledge based techniques, can lead to substantial advantages in several areas of Computational Creativity.

### Computer-Supported Collaboration Environments and the Emergence of Collaboration Aspects

Collaboration technology advanced considerably and teams are increasingly challenged with complex knowledge-intensive collaboration settings in fast-pacing markets. This paper investigates how highly integrated computer-supported collaboration environments (CSCE) impact team processes, emergent states, and team outcomes, and how they differ from traditional collaboration environments. Pre- and post-questionnaire data was gathered from 27 professionals of a medium-sized company operating in the knowledge-intensive sector of telecommunication. Additionally, data collected in group interviews helped provide explanations for the effects found. Our results indicate that teams working in CSCEs have higher team innovation, better agreement, better coordination, and less dominance than in traditional settings. We also identified four collaboration aspects comprising leadership, seriousness, engagement, and awareness that help interpret these effects. This paper seeks to raise awareness about the importance of collaboration aspects for understanding variations in team processes and emergent states, which, in turn, impact team outcomes.







### Annex B Post Event Reports

Information	DESCRIPTION			
Partners involved	Amis			
Performer	Janez Hrastnik, Dominika Oblak			
Title	ARISTOTELE — A NEW APPROACH TO LEARNING ORGANISATION AND INNOVATION			
Role	Author and presenter			
Kind of event	Conference – Days of Slovenian informatics – DSI-2013			
Topic/Agenda	Amis presented ARISTOTELE project to Slovenian IT companies, solution providers and users of IT solutions at the 20th anniversary conference "Days of Slovenian Informatics 2013", which has a long and significant influence on Slovenian IT market and IT development. ARISTOTELE project was presented as a part of Business solutions section and draw a significant attention among the participants. More about conference, presentation material and articles at: http://www.dsi2013.si/			
Date an place of activity	1517.4. 2013, Portorož, Slovenia			
Target group	LC, SME, SI,			
No. of recipients	300+			
Reason why	Participants and presenters on the conference are potential future ARISTOTELE users.			
Project Materials distributed	Article, presentation: http://www.dsi2013.si/default.aspx?id=68&l1=31			
Photos/Video of the event	Uploaded to FB			
Contacts Collected	Technical Network, Bintegra, Probanka, FERI			
Feedback / Comments	Interest was shown, no concrete agreements			







Information	DESCRIPTION			
Partners involved	Amis			
Performer	Janez Hrastnik			
Title	Challenges of implementation and improvement of process oriented organisations			
Role	Author and presenter			
Kind of event				
Topic/Agenda	Amis participated at international business conference MPP 2013 (Management of Business Processes) with lecture and presentation. ARISTOTELE project and platform was introduced from aspect of business process improvement. The conference had around 200 attendees, mostly from industry.  More about conference, presentation material and articles at: http://www.process-conference.org			
Date an place of activity	1617.10.2013, Ljubljana, Slovenia			
Target group	LC, SME, SI,			
No. of recipients	200			
Reason why	Participants and presenters on the conference are potential future ARISTOTELE users.			
Project Materials distributed	Article, presentation: http://www.process-conference.org/prosojnice-predavanj-2/			
Photos/Video of the event	/			
Contacts Collected	Agilcon d.o.o., Filozofska fakulteta, Petrol,			
Feedback / Comments	Interest was shown, no concrete agreements			







Information	DESCRIPTION			
Partners involved	Amis			
Performer	Janez Hrastnik			
Title	BUSINESS PROCESSES, PROJECT MANAGEMENT & ARISTOTELE			
Role	Author and presenter			
Kind of event	Invited Lecture			
Topic/Agenda	Invited Lecture at University of Technology, Graz: Amis presented ARISTOTELE project at at University of Technology in Graz at invited lecture »Business Processes, Project Management and ARISTOTELE«. More than 150 students and several professors participated at the presentation. Response of the audience was positive and many questions lead to a comprehensive discussion about the project.			
Date an place of activity	24.4. 2013, Graz, Austria			
Target group	Students, Professors I			
No. of recipients	150+			
Reason why	Introduction of ARISTOTELE to young generation – future users			
Project Materials distributed	Uploaded to members portal			
Photos/Video of the event	Uploaded to FB			
Contacts Collected	TUG			
Feedback / Comments	Interest was shown, no concrete agreements			







#### Annex C ARISTOTELE Press Release

This Annex provides the list of the ARISTOTELE on line press releases that have published so far.

Website (url)	Submitted (date)	Publication (date)	URL
<u>Free-Press-</u> <u>Release.com</u>	27/06/2013	28/06/2013	http://www.free-press-release.com/news-aristotele-at-the-microsoft-acceleration-lab-1372342530.html
FreePressInde x.com	27/06/2013	27/06/2013	http://www.freepressindex.com/aristotele-at-the-microsoft- acceleration-lab-463245.html
<u>PressBox.co.u</u> <u>k</u>	28/06/2013	01/07/2013	http://www.pressbox.co.uk/detailed/Technology/ARISTOTELE_at _the_Microsoft_Acceleration_Lab_1224496.html
<u>prtake.com</u>	28/06/2013	28/06/2013	http://www.prtake.com/ARISTOTELE-at-the-Microsoft- Acceleration-Lab.htm
<u>TechPRSpider.</u> <u>com</u>	28/06/2013	28/06/2013	http://www.techprspider.com/ARISTOTELE-at-the-Microsoft- Acceleration-Lab-feed81818.aspx







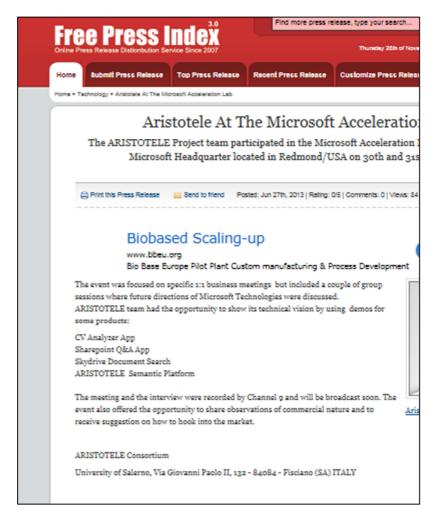


Figure 12 ARISTOTELE Free Press Index







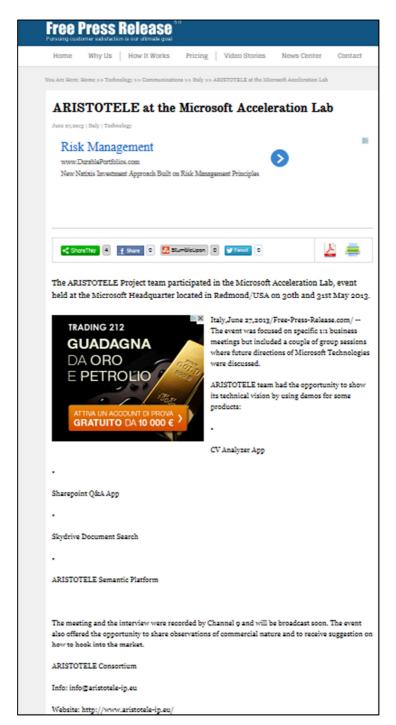


Figure 13 ARISTOTELE Free Press Release







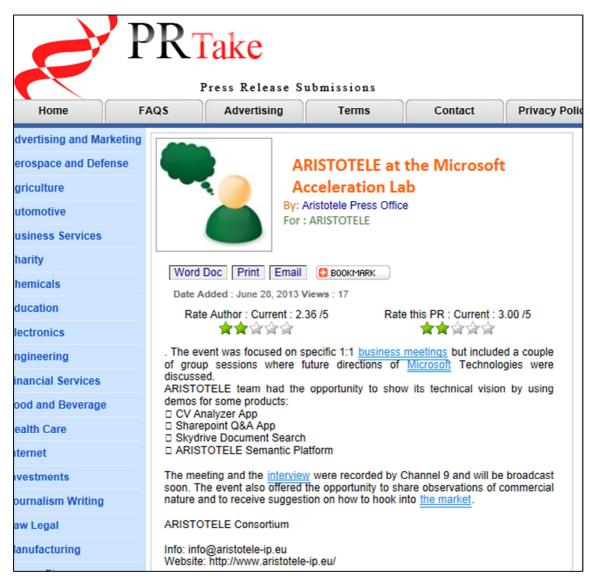


Figure 14 ARISTOTELE PR Take









Figure 15 ARISTOTELE Pressbox.co.uk







# Annex E ARISTOTLE SCIENTIFIC DISSEMINATION - Further scientific papers

This annexed table, shows further Scientific Papers not included into the full list reported in table 10 because, according to the indicators, they are not published by any of the recommended publishers: IEEE Society, ACM Society, Springer-Verlag, Elsevier. However, we think that these papers are worthy of being mentioned at least separately.

	Date	Conference/Workshop	Contribution	Partners Involved
1	2012	Pre-proceedings volume of the 2nd International Symposium on Data-Drive Process Discovery and Analysis (SIMPDA 2012)	How from Action Patters in	UIBK
2	2013	Proceedings of the 11th International Conference on Wirtschaftsinformatik	Gathering Knowledge from Social Knowledge Management Environments: Validation of an Anticipatory Standard.	UIBK
3	2013	Proceedings of the 21st European Conference on Information Systems (ECIS)	Enterprise Systems for Competence Management: Approach, Method, and Challenges	UIBK