



ACTiCLOUD: ACTivating resource efficiency and large databases in the
CLOUD

Project No: 732366

H2020-ICT-2016-1

D5.1: Project Presentation and Web Portal

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Executive summary:

The deliverable D5.1 "Project Presentation and Web Portal" contains the project presentation and the project website. This comprises the main dissemination and exploitation channel for communicating and promoting the project.

List of authors:

Author	Affiliation
Georgios Goumas (Editor)	ICCS
Vasileios Karakostas	ICCS
Konstantinos Nikas	ICCS
Ewnetu Bayuh Lakew	UMU
Andrew Attwood	KALEAO

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		P (Prototype)
		D (Demonstrator)
		O (Other)

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1.1	Konstantinos Nikas	Resubmission

ACTiCLOUD Consortium:

Participant No	Participant organization name	Short name	Country
1 (Coordinator)	Institute of Communication and Computer Systems	ICCS	Greece
2	Numascale AS	NSCALE	Norway
3	Kaleao Limited	KALEAO	UK
4	OnApp Limited	ONAPP	Gibraltar
5	University of Manchester	UNIMAN	UK
6	MonetDB Solutions B.V.	MDBS	Netherlands
7	Neo Technology	NEO	Sweden
8	UMEA University	UMU	Sweden



NUMASCALE

KALEAO

onapp



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1 Summary

The deliverable D5.1 "Project Presentation and Web Portal" contains the project presentation and the project website. This comprises the main dissemination and exploitation channel for communicating and promoting the project. For ACTiCLOUD, the Project Presentation and Web Portal consists of five key components:

1. Project Website
2. Social Media Presence
3. Project Presentation Slides
4. Project Poster
5. Project Brochure

2 Project Presentation and Web Portal

The following sections outline the details behind the five project deliverables that comprise D5.1.

2.1 Project Website

The project website was originally developed in M3 and then redesigned in M24 in an attempt to address the comments received by the reviewers at the PR1 review. The updated website became public in M25.

ACTiCLOUD's website is available at <https://acticloud.eu>.

2.1.1 Website content

The ACTiCLOUD project website aims to provide both a clear “non-technical” introduction to the project and up-to-date material regarding the project's process and technical details. Modern web technologies and design guidelines have been adopted to make the site accessible and easy to use, implementing responsive layouts and design patterns that focus on smooth user experience.

The welcoming page of the website, shown in Figure 1, contains a high-level introduction to the project, the project's latest news, the project's latest tweets and a link to the Consortium page comprising all partners' logos. The top navigation bar provides links to the rest of the website pages, while the bar at the bottom contains the acknowledgment to H2020 funding together with links to the project's Twitter, YouTube, ResearchGate and GitHub accounts.

The following subsections present the rest of the website's pages.

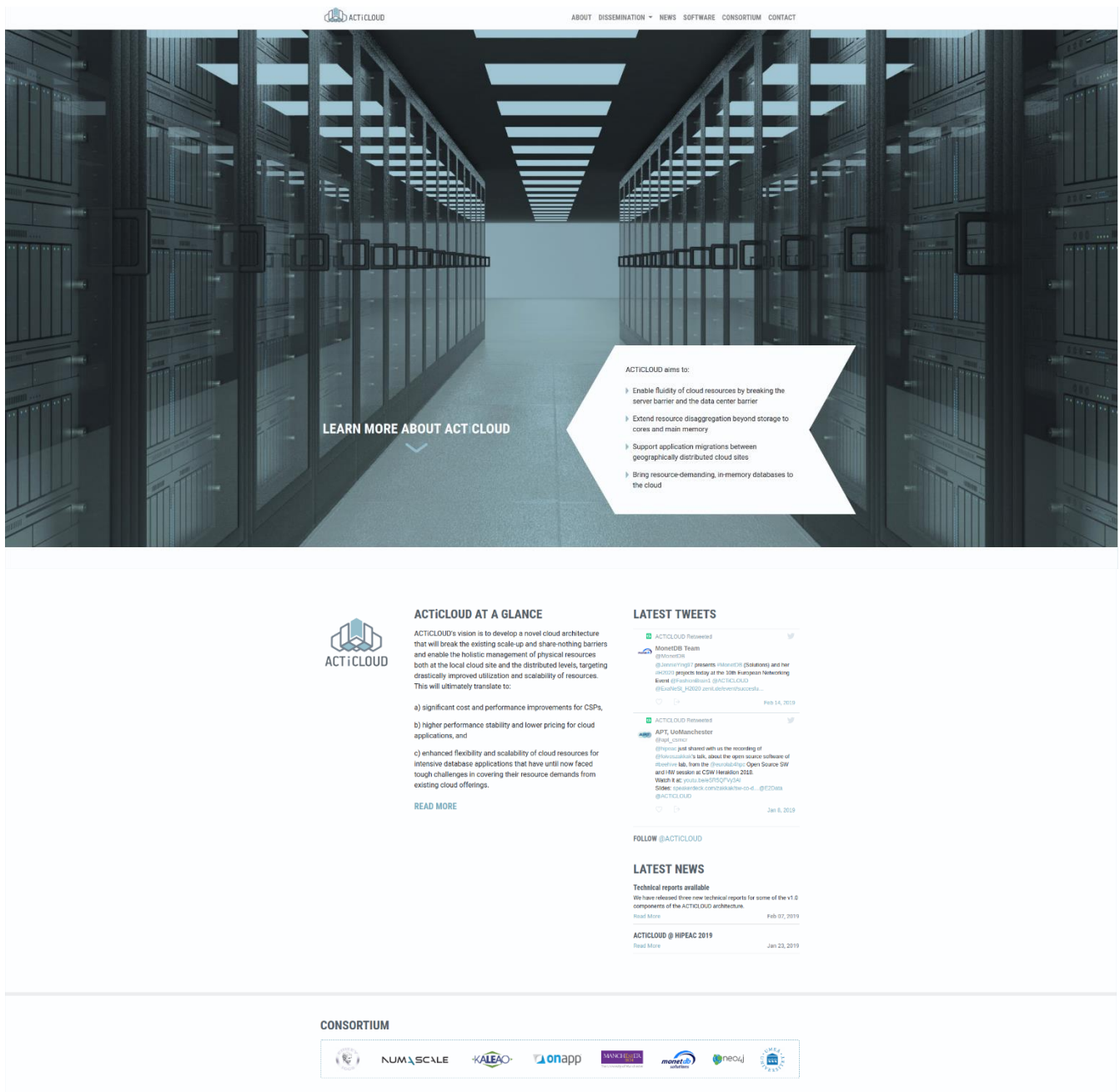
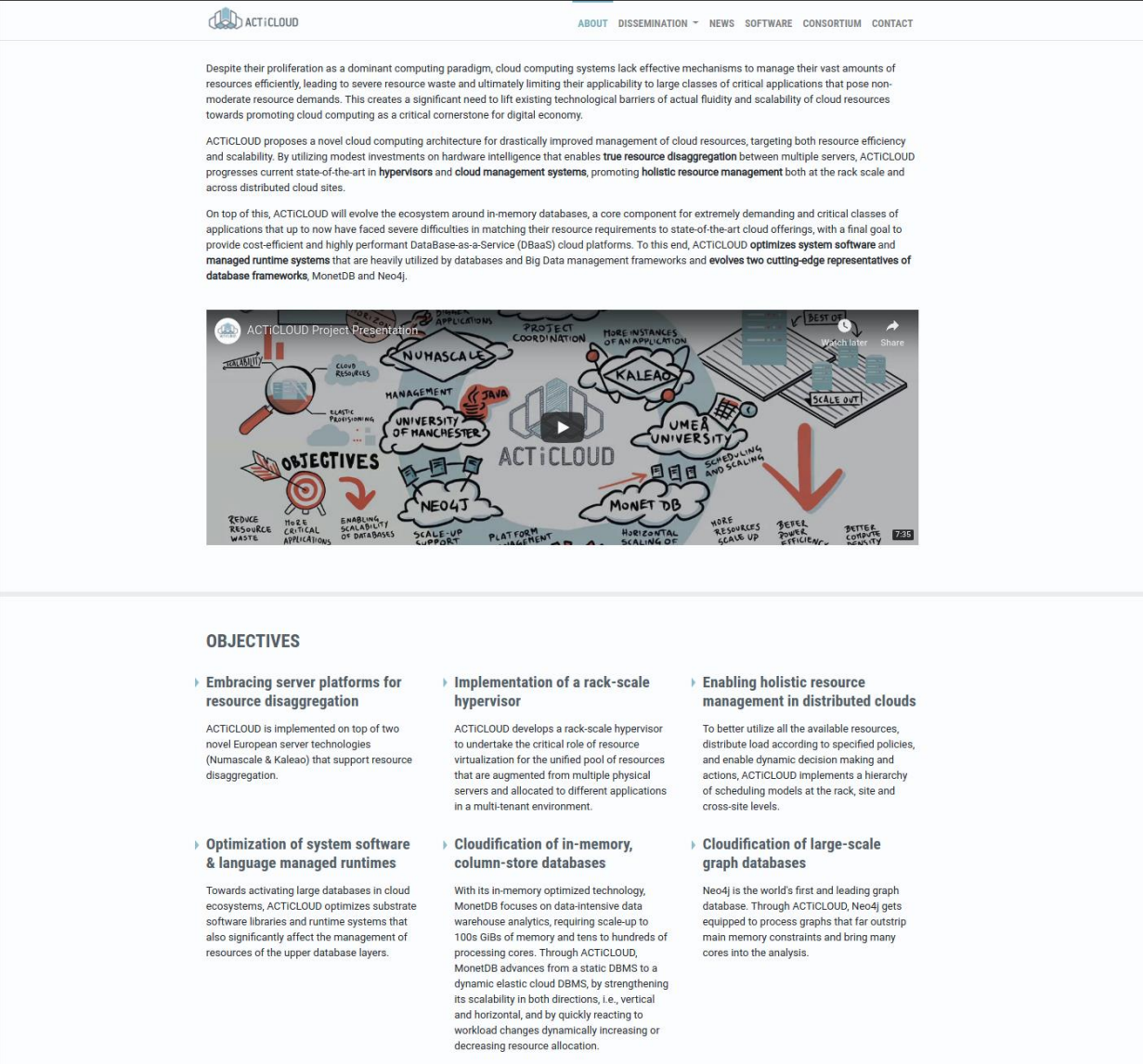


Figure 1 ACTiCLOUD's main webpage

About

The **About** webpage, shown in Figure 2, provides a description of the project together with its objectives. It also holds a video presentation of the ACTiCLOUD project.



Despite their proliferation as a dominant computing paradigm, cloud computing systems lack effective mechanisms to manage their vast amounts of resources efficiently, leading to severe resource waste and ultimately limiting their applicability to large classes of critical applications that pose non-moderate resource demands. This creates a significant need to lift existing technological barriers of actual fluidity and scalability of cloud resources towards promoting cloud computing as a critical cornerstone for digital economy.

ACTiCLOUD proposes a novel cloud computing architecture for drastically improved management of cloud resources, targeting both resource efficiency and scalability. By utilizing modest investments on hardware intelligence that enables **true resource disaggregation** between multiple servers, ACTiCLOUD progresses current state-of-the-art in **hypervisors** and **cloud management systems**, promoting **holistic resource management** both at the rack scale and across distributed cloud sites.

On top of this, ACTiCLOUD will evolve the ecosystem around in-memory databases, a core component for extremely demanding and critical classes of applications that up to now have faced severe difficulties in matching their resource requirements to state-of-the-art cloud offerings, with a final goal to provide cost-efficient and highly performant DataBase-as-a-Service (DBaaS) cloud platforms. To this end, ACTiCLOUD **optimizes system software** and **managed runtime systems** that are heavily utilized by databases and Big Data management frameworks and **evolves two cutting-edge representatives of database frameworks**, MonetDB and Neo4j.

OBJECTIVES

- Embracing server platforms for resource disaggregation**
 ACTiCLOUD is implemented on top of two novel European server technologies (Numascale & Kaleao) that support resource disaggregation.
- Implementation of a rack-scale hypervisor**
 ACTiCLOUD develops a rack-scale hypervisor to undertake the critical role of resource virtualization for the unified pool of resources that are augmented from multiple physical servers and allocated to different applications in a multi-tenant environment.
- Enabling holistic resource management in distributed clouds**
 To better utilize all the available resources, distribute load according to specified policies, and enable dynamic decision making and actions, ACTiCLOUD implements a hierarchy of scheduling models at the rack, site and cross-site levels.
- Optimization of system software & language managed runtimes**
 Towards activating large databases in cloud ecosystems, ACTiCLOUD optimizes substrate software libraries and runtime systems that also significantly affect the management of resources of the upper database layers.
- Cloudification of in-memory, column-store databases**
 With its in-memory optimized technology, MonetDB focuses on data-intensive data warehouse analytics, requiring scale-up to 100s GiBs of memory and tens to hundreds of processing cores. Through ACTiCLOUD, MonetDB advances from a static DBMS to a dynamic elastic cloud DBMS, by strengthening its scalability in both directions, i.e., vertical and horizontal, and by quickly reacting to workload changes dynamically increasing or decreasing resource allocation.
- Cloudification of large-scale graph databases**
 Neo4j is the world's first and leading graph database. Through ACTiCLOUD, Neo4j gets equipped to process graphs that far outstrip main memory constraints and bring many cores into the analysis.

Figure 2 ACTiCLOUD's About webpage

Dissemination

The ACTiCLOUD website organises the dissemination material in 4 different categories:

- 1. Publications:** A list of all the project related publications in chronological order. As shown in Figure 3, the visitor can find all the important paper information (title, authors, and venue) together with the paper's abstract, a draft of the paper in pdf format and a link to the editor's site.
- 2. Deliverables:** A list of the project deliverables in chronological order according to their delivery date. As shown in Figure 4, the visitor can find all the important deliverable information (name, lead participant, delivery date) together with a short description of the deliverable and a copy in pdf format. All the visitors can only see the public deliverables and the confidential ones for which the consortium has created and released public technical reports; only registered users can get access to the full list of deliverables.
- 3. Videos:** A mirror of the project's YouTube channel (Figure 5).

4. **Material:** A page holding other project-related dissemination material, namely flyers, posters and project-related presentations, as shown in Figure 6 .

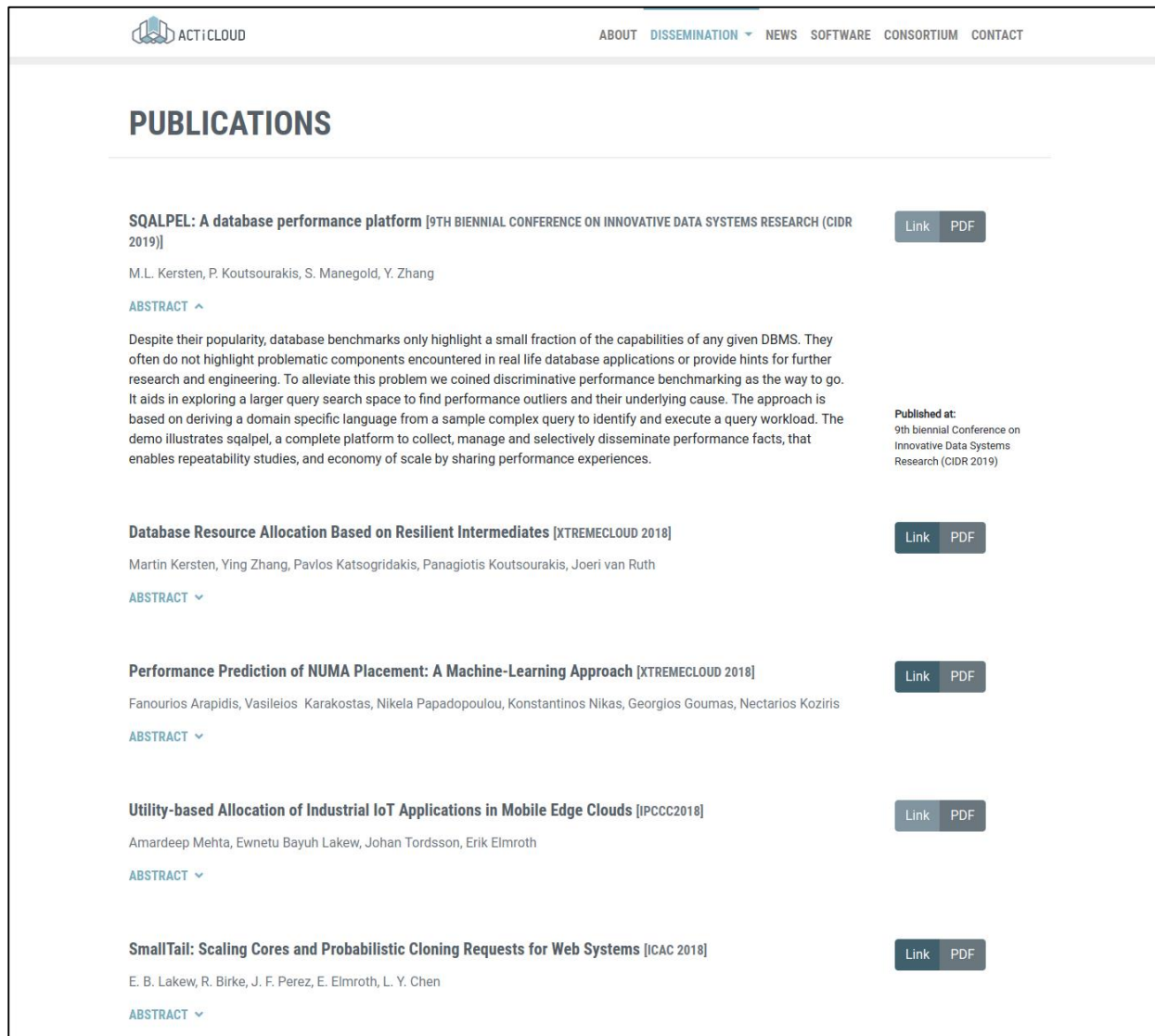



Figure 3 ACTiCLOUD's Publications webpage



ACTiCLOUD

[ABOUT](#)
[DISSEMINATION](#)
[NEWS](#)
[SOFTWARE](#)
[CONSORTIUM](#)
[CONTACT](#)

DELIVERABLES

#	Name	WP #	Lead Participant	Delivery Date	PDF	Technical Report
D5.1	<div>Project Presentation and Web Portal ^</div> <div>The deliverable D5.1 "Project Presentation and Web Portal" contains the project presentation and the project website. This comprises the main dissemination and exploitation channel for communicating and promoting the project.</div>	WP5	ICCS	M3	Download	Report
D5.2	Data Management Plan v	WP5	ICCS	M6	Download	Report
D1.2	ACTiCLOUD architecture v	WP1	ICCS	M16	Download	Report
D2.2	Distributed cloud resource manager v1.0 v	WP2	ICCS	M18	Download	Report
D3.2	Hyperscale JVM v1.0 v	WP3	UNIMAN	M18	Download	Report
D3.3	MonetDB ACTiCLOUD extensions v1.0 v	WP3	MDBS	M18	Download	Report

Figure 4 ACTiCLOUD's Deliverables webpage




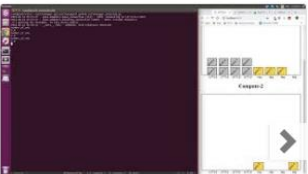

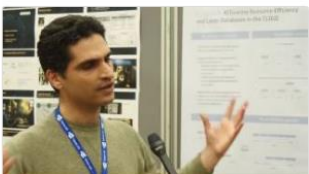
		ABOUT DISSEMINATION NEWS SOFTWARE CONSORTIUM CONTACT									
VIDEOS											
DEMOS (1ST REVIEW)											
											
Demo 1.1: ACTiManager.internal		Demo 1.2: ACTiManager.internal - Random		Demo 1.3: ACTiManager.external							
ACTiCLOUD PRESENTATION											
											
ACTiCLOUD Project Presentation		ACTiCLOUD project									

Figure 5 ACTiCLOUD's Videos webpage

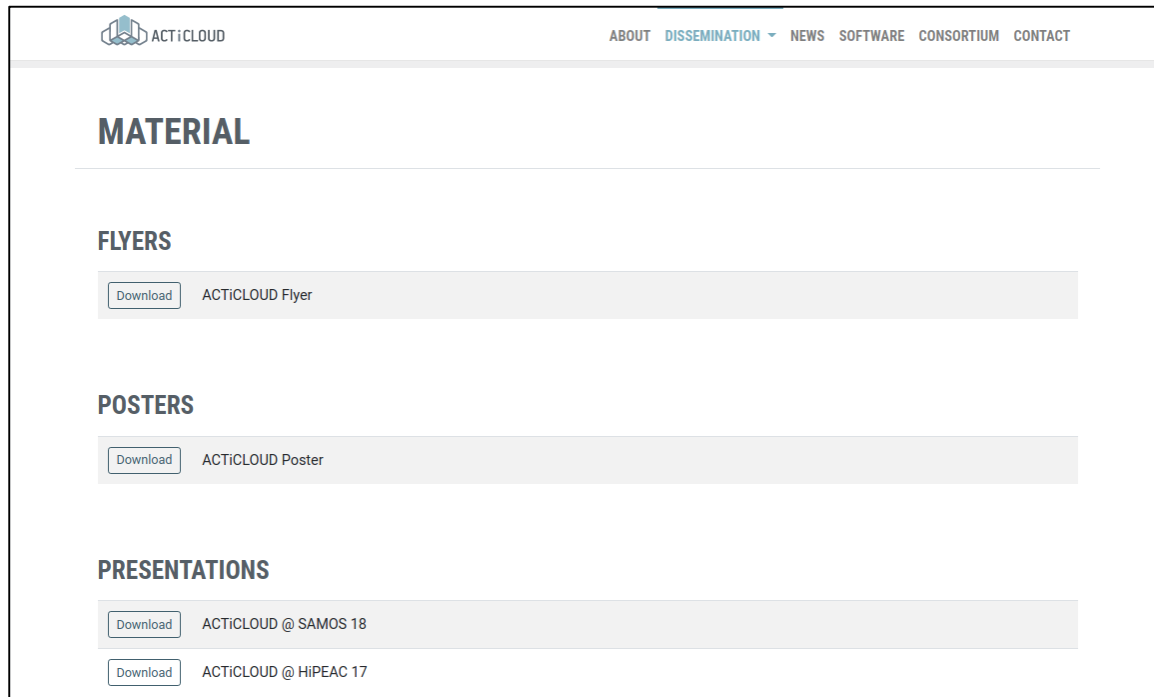


Figure 6 ACTiCLOUD's Dissemination Material webpage

News

The **News** webpage provides all project's news in chronological order according to their publication date. As shown in Figure 7, the visitor is presented with news' cards, each one of which contains a descriptive title, its publication title, a short overview and a link to a more detailed presentation of the news item (shown in Figure 8).

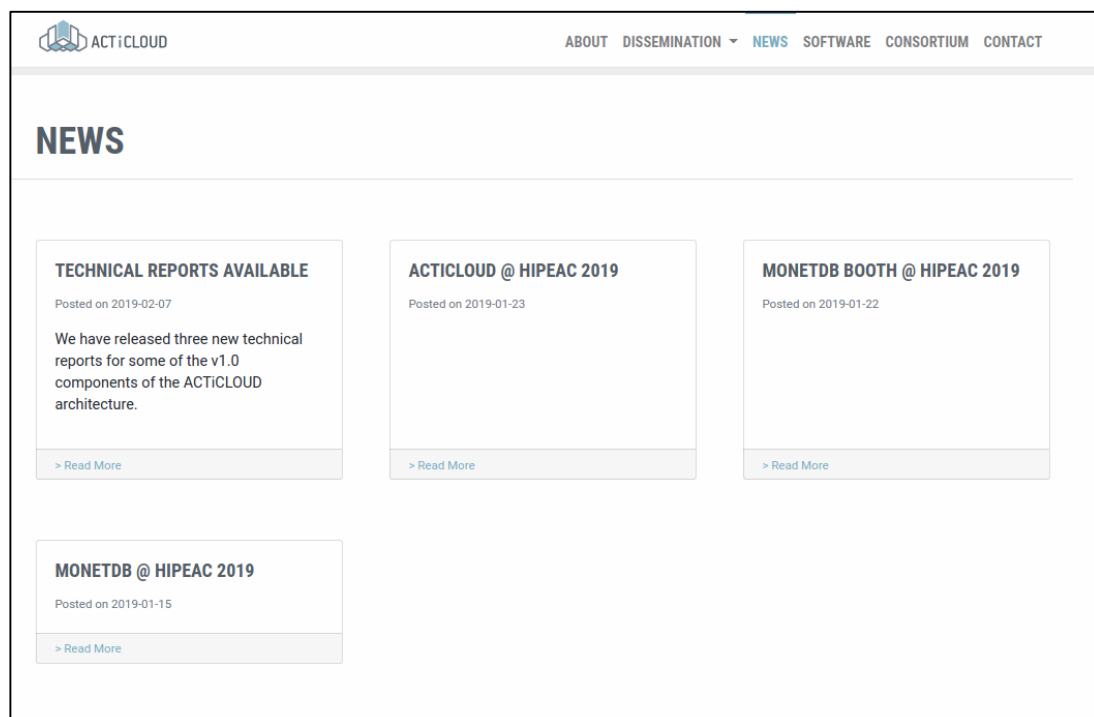


Figure 7 ACTiCLOUD's News webpage

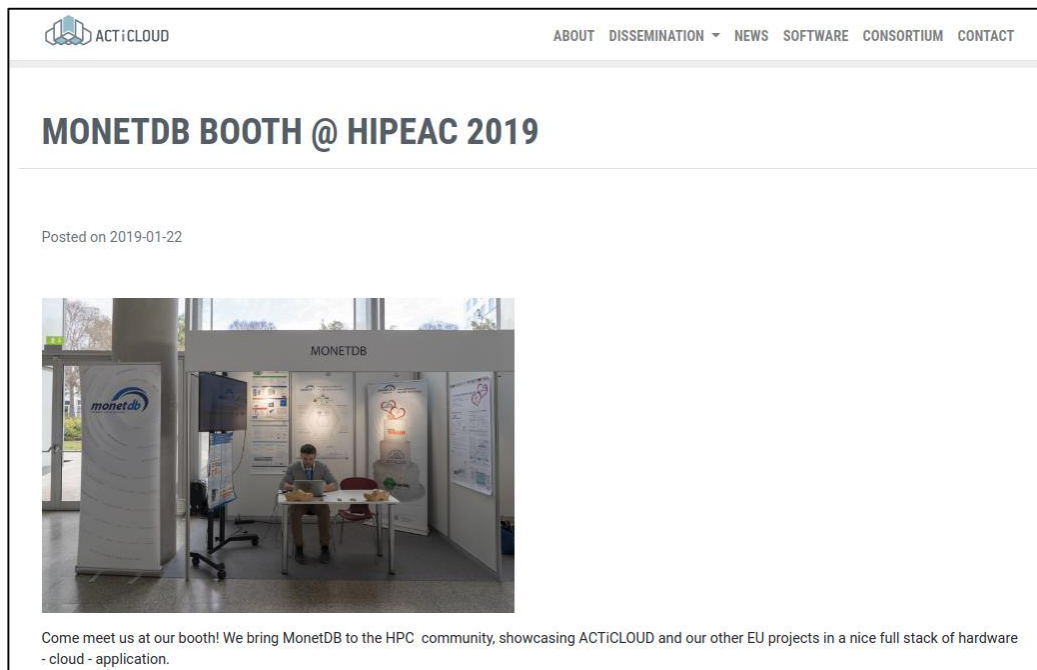


Figure 8 ACTiCLOUD's news item detailed presentation

Software

The **Software** webpage provides links to the project's software hosted in Github.

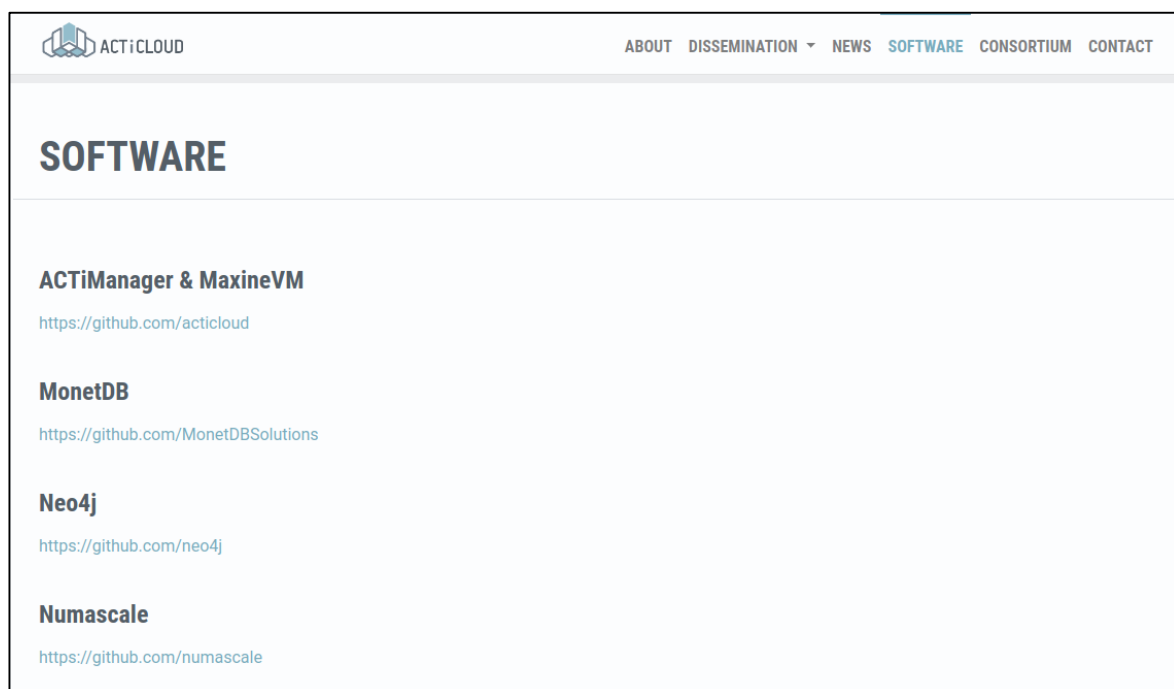


Figure 9 ACTiCLOUD's Software webpage

Consortium

The **Consortium** webpage, as shown in Figure 10, lists all partners' logo, with each one being highlighted once the visitor's pointer hovers above it. Each logo is a link to a page (shown in Figure

11) that contains a short description of the selected partner, key persons involved in the project and a link to the selected partner's website.

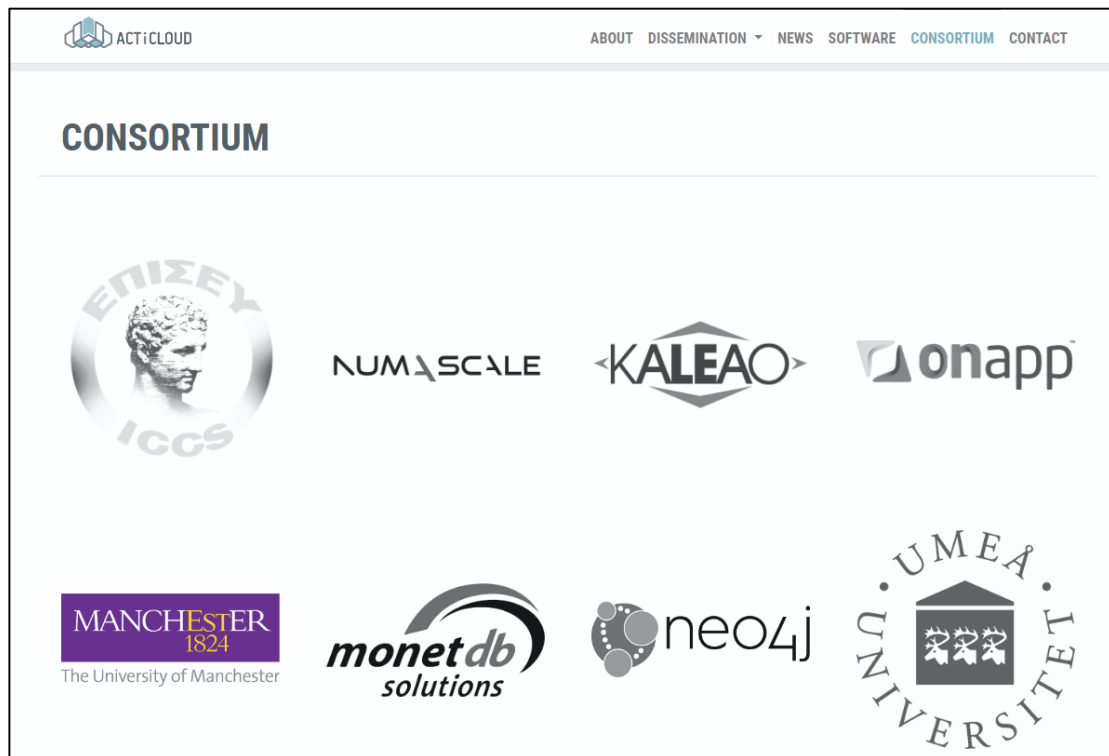


Figure 10 ACTiCLOUD's Consortium webpage

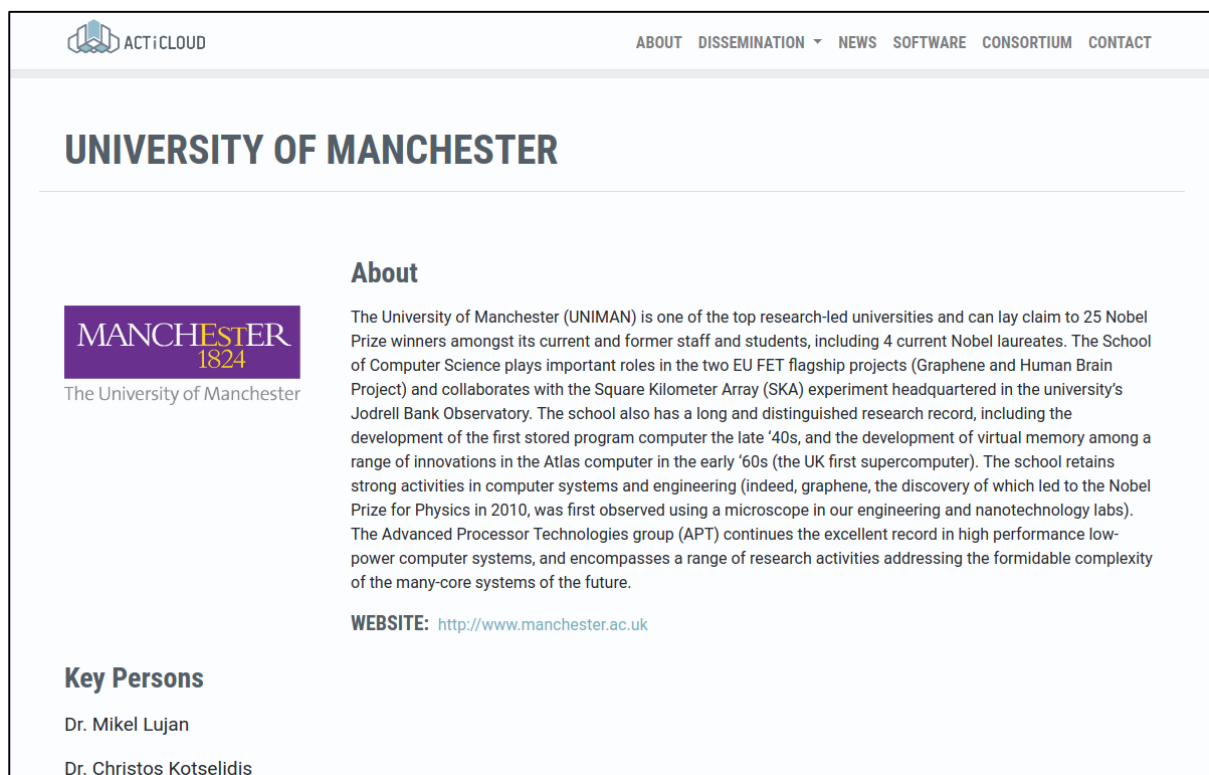


Figure 11 ACTiCLOUD's partner presentation

Contact

The **Contact** webpage, shown in Figure 12, provides a contact form for any visitor that would like to communicate with the consortium.

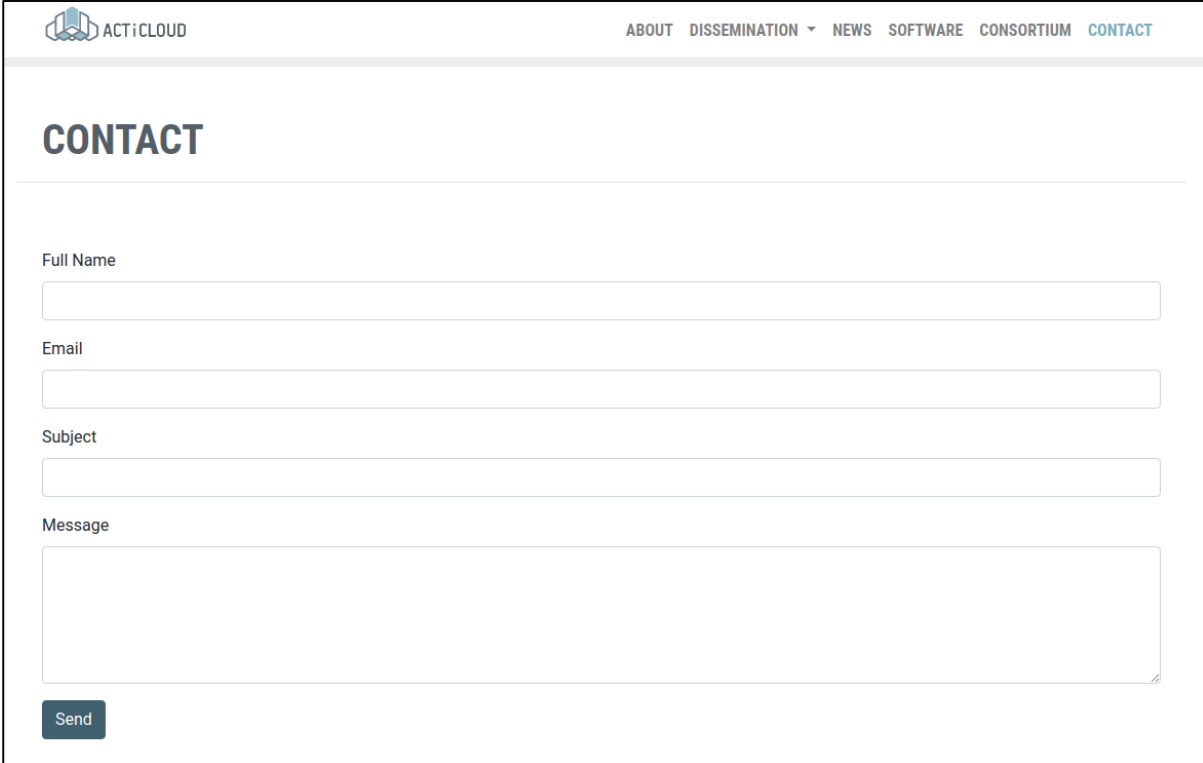
The image shows a web browser window displaying the ACTiCLOUD contact page. At the top, there is a navigation bar with the ACTiCLOUD logo on the left and a menu of links: ABOUT, DISSEMINATION (with a dropdown arrow), NEWS, SOFTWARE, CONSORTIUM, and CONTACT (highlighted in blue). Below the navigation bar, the word "CONTACT" is displayed in a large, bold, dark blue font. Underneath, there is a contact form with four input fields: "Full Name", "Email", "Subject", and "Message". Each field is a light gray rectangle with a thin border. The "Message" field is significantly larger than the others. At the bottom left of the form, there is a dark blue button with the word "Send" in white text.

Figure 12 ACTiCLOUD's Contact form

2.1.2 Brand Visibility

As part of developing an effective dissemination strategy, the open-source analytics platform PIWIK (<https://piwik.org/>) has been deployed to provide detailed information about website page visits, referrers, unique visitor information, and geographical distribution of interested parties (Figure 13).

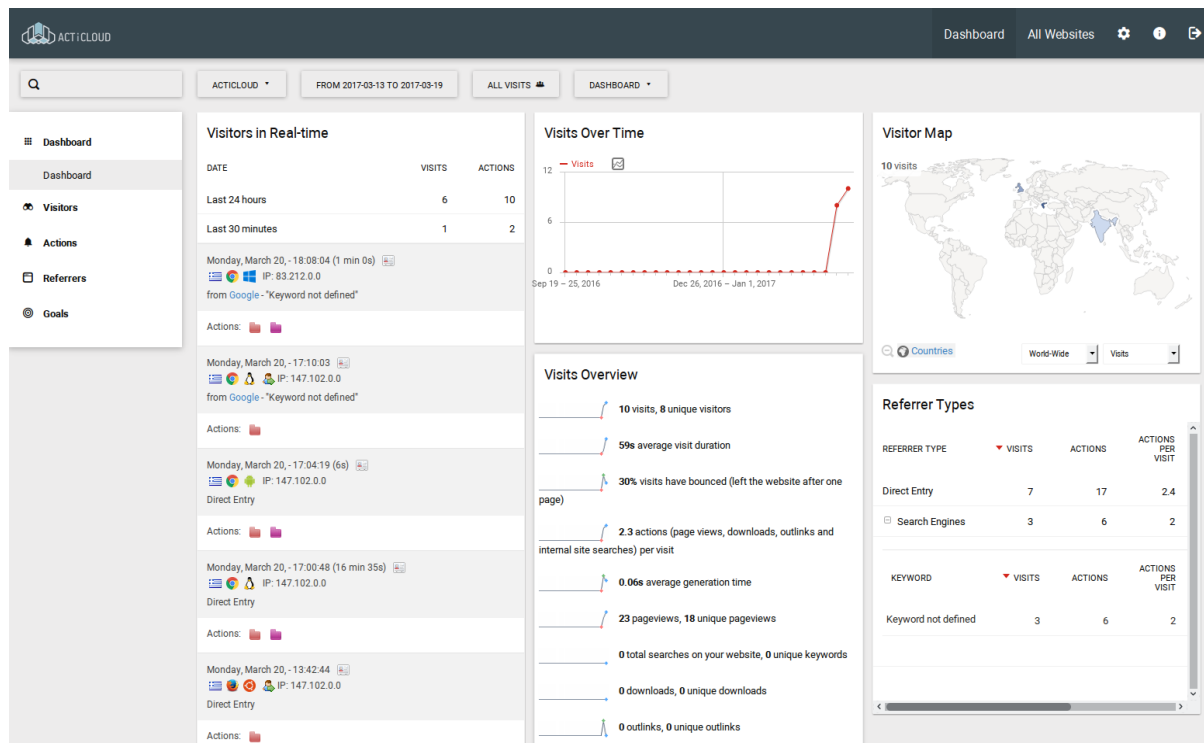


Figure 13 ACTiCLOUD analytics dashboard

2.2 Social Media Presence

The social media presence covers Twitter, which is accessible via the following link: <https://twitter.com/acticloud?lang=en>. The Twitter account (Figure 14) will ensure the project has the widest possible audience reach and provides a platform of building influencer interest in both industry and academia, and the open source tools that the project shall deliver.

2.2.1 Twitter account

The Twitter account is @ACTiCLOUD, uses the hash tag #ACTiCLOUD, it has a twitter schedule and suggested audience that the partners will adopt. The objectives and aims of the project using Twitter are listed below:

- To connect with our target audience
- To extend the ACTiCLOUD brand and footprint
- To watch similar companies, competitors, and our market place
- To gather feedback on our product
- To create a micro-blogging site to get information out fast

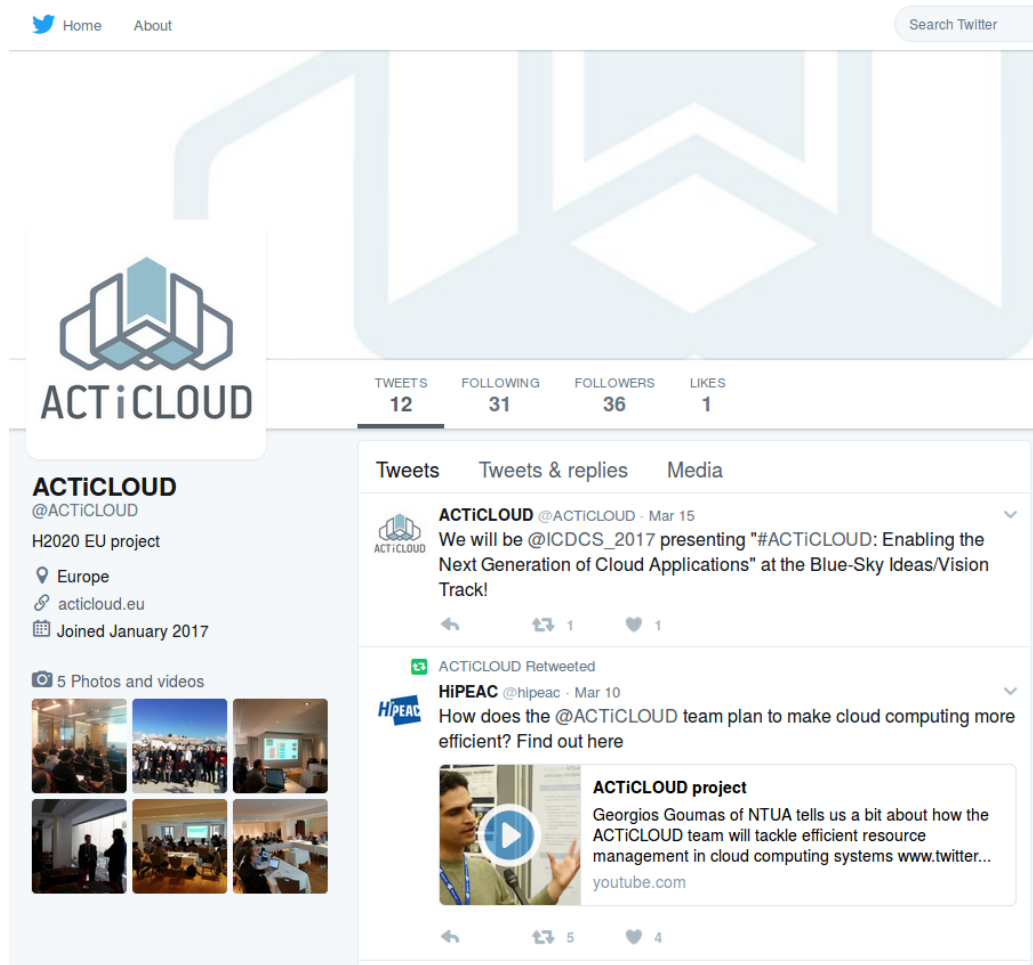


Figure 14 ACTiCLOUD Twitter Account

2.3 Project Presentation Slides

The project presentation slides (Figures 15-18) provide a presentation of the project vision and objectives. This presentation will be used when project partners are attending or presenting at meetings and conferences internally and externally. The objectives of the presentation is to summarise what ACTiCLOUD is aiming to achieve via simple diagrams and slides that are tailored to the audience we are aiming to reach.

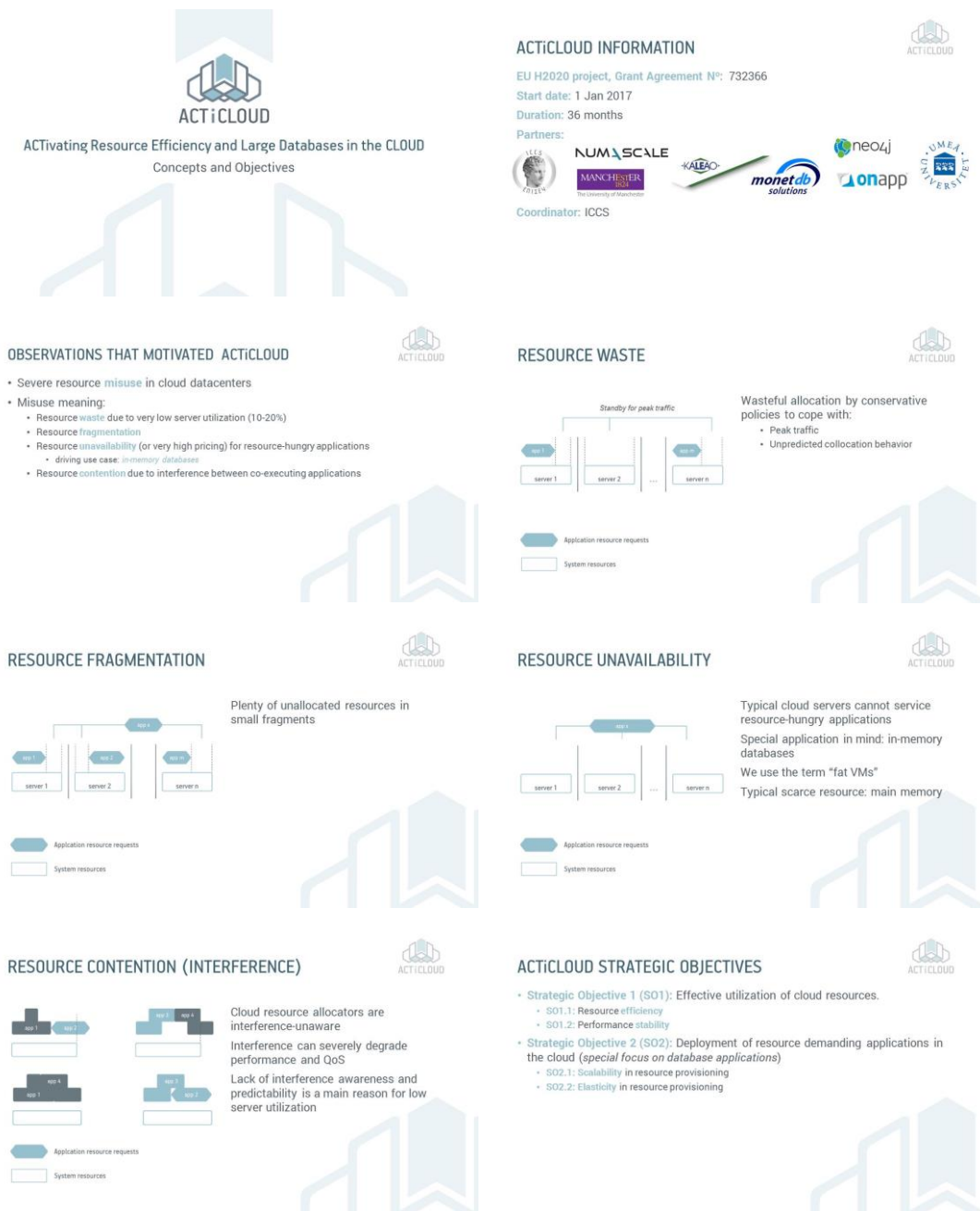


Figure 15 Project Presentation Slides (Part 1)

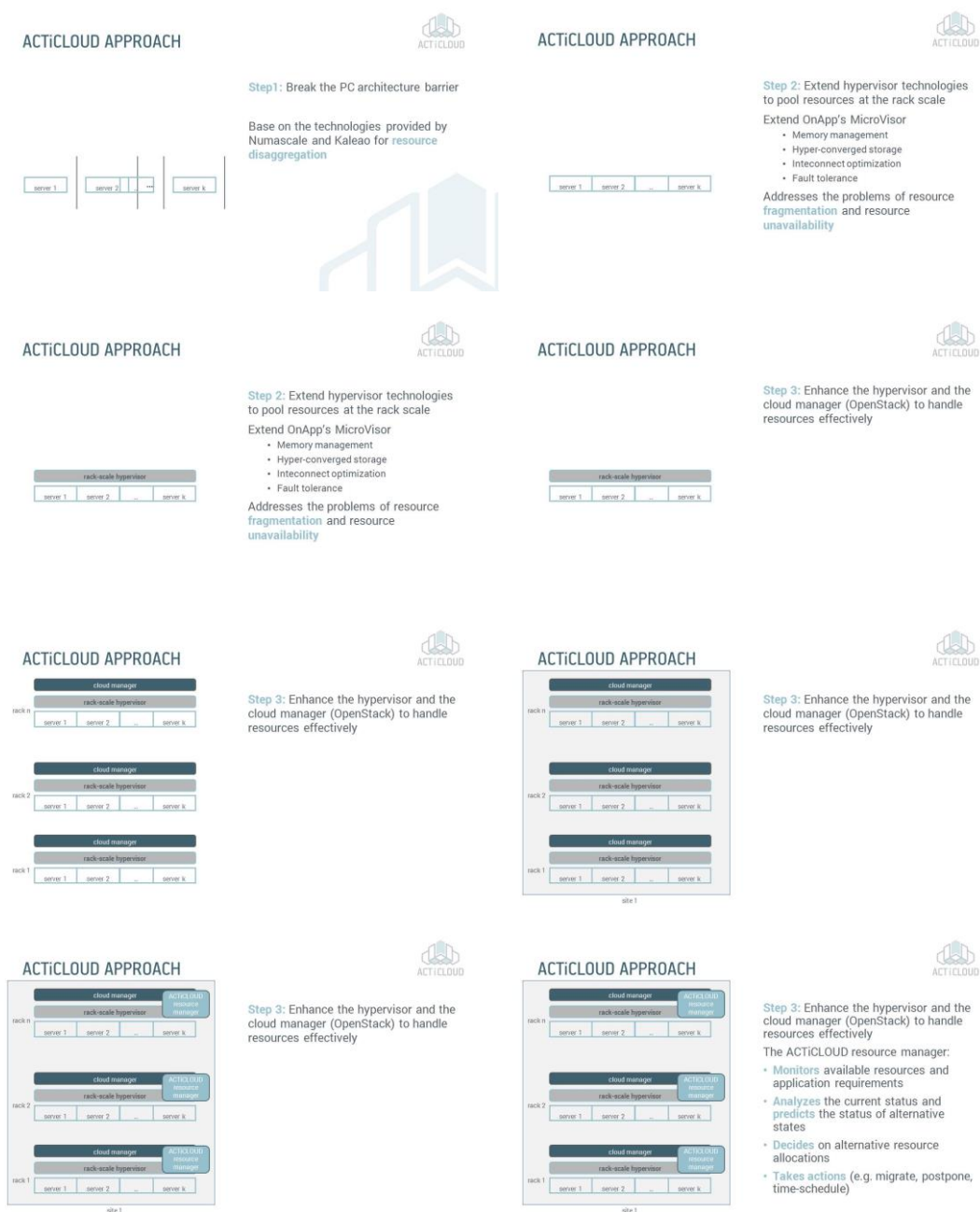


Figure 16 Project Presentation Slides (Part 2)

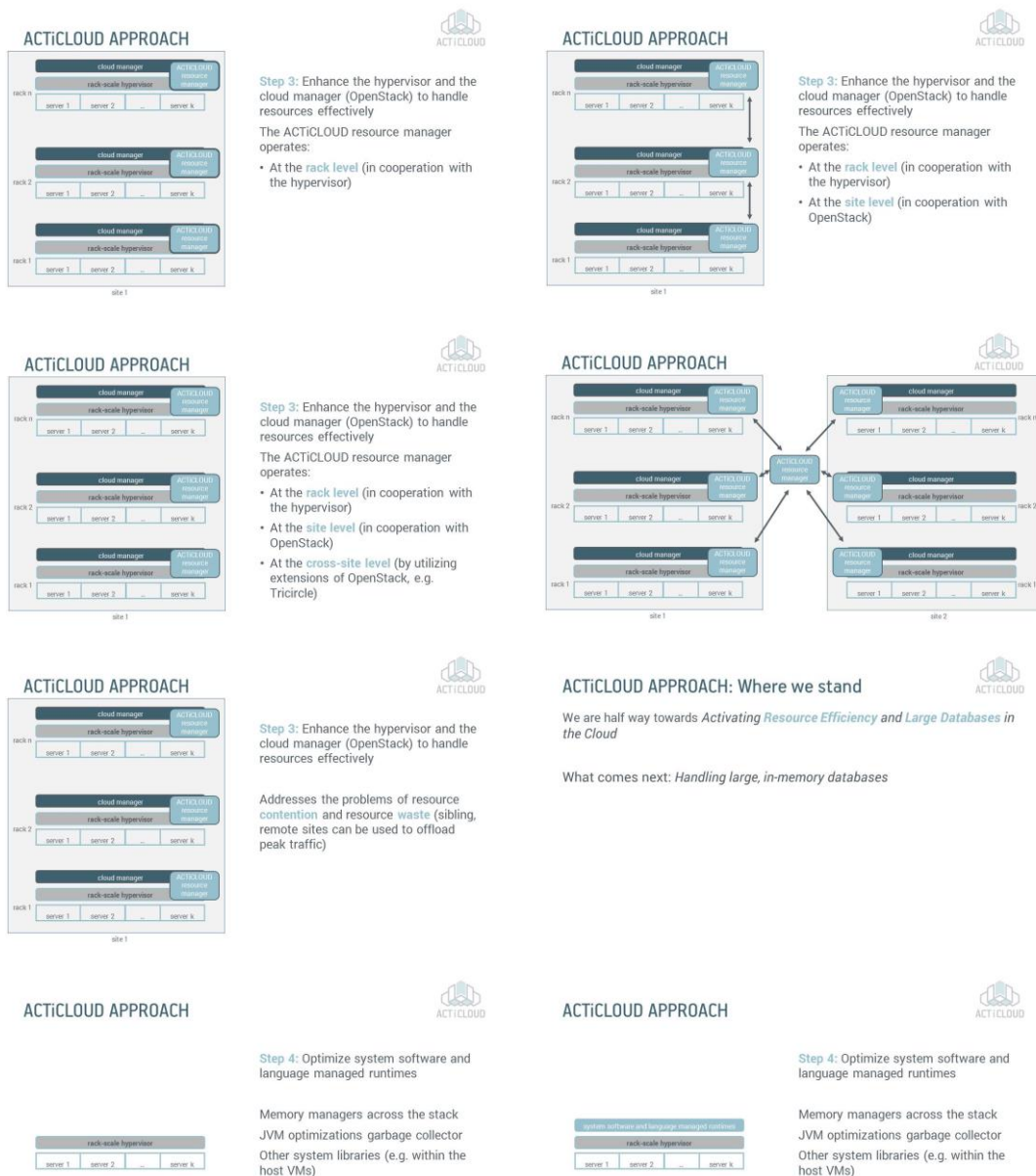


Figure 17 Project Presentation Slides (Part 3)

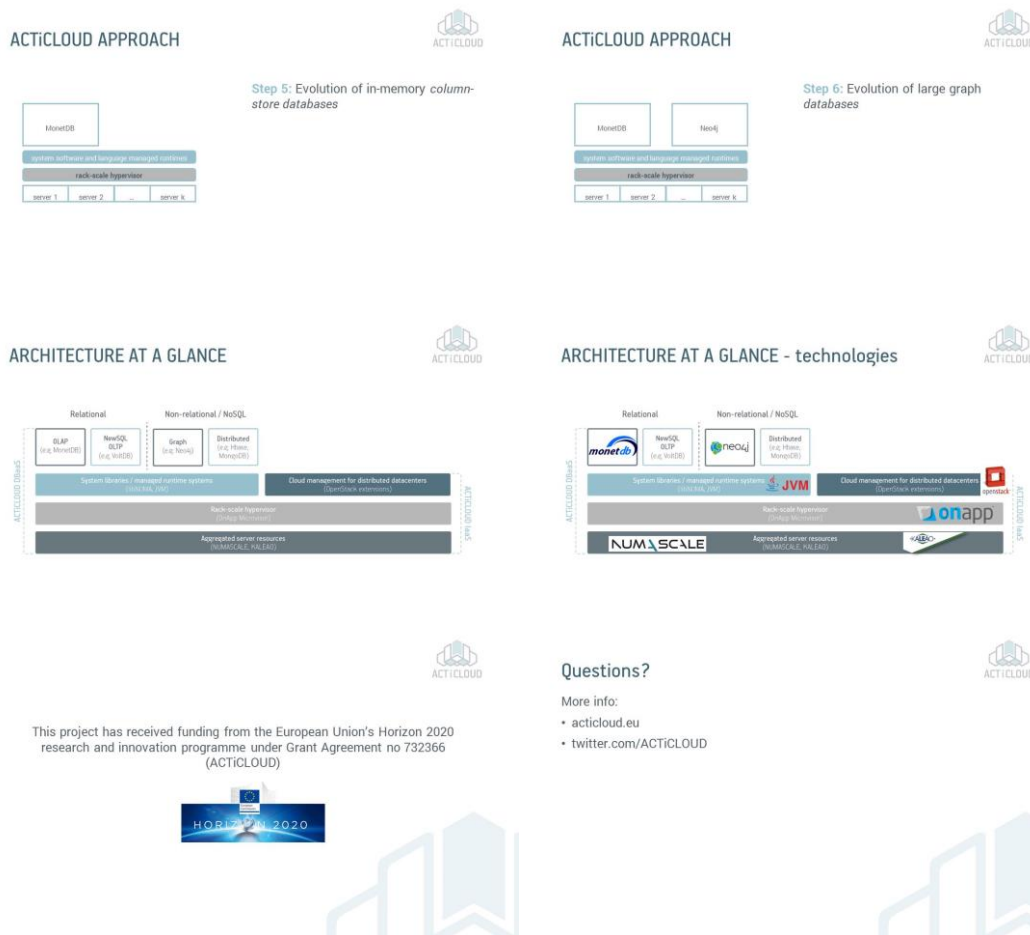
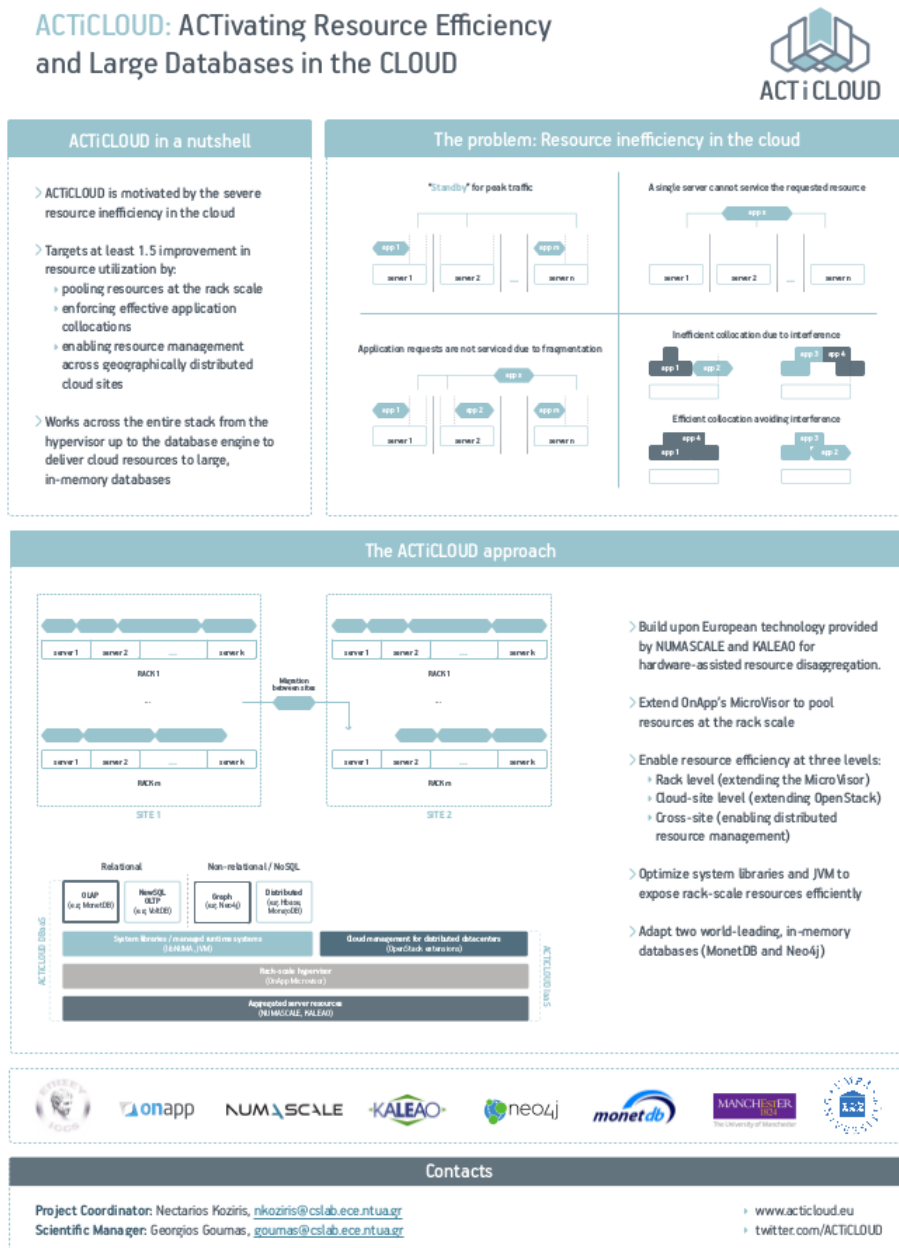


Figure 18 Project Presentation Slides (Part 4)

2.4 Project Poster

The project poster provides a quick description of the project. This poster (Figure 9) will be used when project partners are participating in poster sessions while attending or presenting at meetings and conferences internally and externally. The objective of the poster is to describe briefly the ACTiCLOUD project, i.e., the motivation behind the project, the problems that the project tackles, and the approach that the project proposes and applies for solving them.



This research has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement no 732366 (ACTiCLOUD)



Figure 19 ACTiCLOUD Poster

2.5 Project Brochure

The project brochure, or fact sheet, will describe the project in a short document. A brochure is an essential tool used in the dissemination strategy as it provides an overall view of the project. The ACTiCLOUD brochure will break down the project information into easily grasped, bite-size pieces so that the target audience and press could easily find specific information that will be useful to them. The brochure will be available as a download file in pdf format from the ACTiCLOUD official website, and it will be used along with a press release or media kit that can be taken to an event.