Deliverable-7.1

Project Website

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Synopsis: The purpose of this document is to present the project's website (http://ict-pristine.eu/), along with the social media tools to support it. The website is of high importance as it is considered to be the main vehicle of dissemination, aiming to promote the project results outside the consortium.

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Disclaimer

Executive Summary

This deliverable sets out the proposed deployment of the PRISTINE public website containing the project's information, guidelines and expected outputs. A well-designed website with attractive look and feel, easy navigation, rich content and frequent updates will ensure that project results are distributed to a wide audience, maximizing the impact of the project, raising awareness for the project results and stimulating interest around PRISTINE. D7.1 also identifies the more important dissemination tools, including news publication features, as well as social media tools (e.g. Twitter, Slideshare, LinkedIn), to ensure that there is a viable communication channel to external communities. This document sets out the project's initial website deployment strategy, along with the social media tools to support it, and the metric tools to analyze its evolution and dissemination value.

Table of Contents

1. Introduction

The Internet as the global communications infrastructure has been successful in shaping the modern world by the way we access and exchange information. The Internet architecture designed in the 1960's has been supporting a variety of applications and offering a number of services till now but emerging applications demand better quality, programmability, resilience and protection. Any alterations to the Internet architecture have become restricted to simple incremental updates, work-arounds, point-solutions and plug-ins instead of radical changes by introducing new solutions.

RINA is an emerging clean-slate programmable networking approach, centring on Inter-Process Communication (IPC) paradigm, which natively supports high scalability, multi-homing, built-in security, seamless access to real-time information and operation in dynamic environments. The heart of this networking structure is naturally formed and organised by blocks of containers called "Distributed IPC Facilities (DIFs)" where each block has programmable functions to be attributed to as they required. A DIF is seen as an organizing structure, grouping together application processes that provide IPC services and are configured under the same policies.

PRISTINE will use RINA to develop practical, demonstrable, and commercially exploitable solutions to address existing networking limitations. PRISTINE intends to design and implement the innovative internals of the RINA clean-slate architecture. This includes the programmable functions for: supporting congestion control, providing protection / resilience, facilitating more efficient topological routing, and multi-layer management for handling configuration, performance and security.

In PRISTINE project dissemination is an activity of key importance, since one of the biggest barriers for RINA adoption is the natural reluctance of humans to adopt radically new ideas that challenge the established state of the art, as the history of science has shown. Most of us have been taught TCP/IP as one of the major achievements in networking. Being capable of stepping back, seeing all the limitations of TCP/IP and understanding all the implications of RINA is not an easy exercise, it is a process that require time and efforts to show that PRISTINE has a solid scientific-base and can demonstrate its applicability in real-world networking scenarios.

1.1. Dissemination targets

The dissemination targets of PRISTINE should include all sectors, institutions, organizations and people that:

a. Are interested in the research conducted in PRISTINE
b. Are interested to contribute to our work
c. Are interested in learning about the project's findings
d. Are or will be affected in the future by the outcomes of our research
e. Are able to influence our work in some way
f. Are able to benefit from our work

With these in mind dissemination clearly should be directed towards three main groups:

- **Academia**, targeting researchers, professors and students. RINA is still largely unexplored with many research topics looking for answers. Professors and researchers with interest in RINA can identify these research topics, attract public or private funding to work on them and provide possible solutions. Professors can supervise master or PhD. students on areas related to RINA research. Moreover, RINA provides a theory of what are the minimal elements in all forms of computer networking (mechanisms) and a framework for defining and plugging in/out all the elements that are configurable and optional (the policies), all within an architecture based on a sound theory of networking. Professors can design university or master-level courses to teach the students with the principles of networking derived from the RINA model and provides a framework to analyze existing work.
- **Industry**, targeting telecommunication companies, network providers, networking equipment manufacturers, application developers, and open-source communities (i.e. Linux networking and application development oriented ones). The objective is to demonstrate the potential of the RINA solution to those people that can help in developing the PRISTINE software further and also to organizations and companies that affect the telecommunication market and can lead to RINA implementations that can be deployed in a real-world production environment.
- **Funding bodies**, public and private. Dissemination of the RINA theory, as well as PRISTINE project results to people and institutions that might want to sponsor further RINA research.
- **General public**, since RINA is a technology that can revolutionize the way people experiences internetworking and distributed applications.

When creating the website, the informational needs of the above groups have been taken into account in order to efficiently attract their interest.

2. Project Website

The project web site is the first place to look for the information relating to the project. The PRISTINE website contains information about the project, with specific goals and a well defined scope, ongoing results, news and events, and offers the potential of becoming one of the project's main dissemination tools.

The PRISTINE website is available online at http://ict-pristine.eu/ and it has been online since December 2013. The website has been built using a WordPress installation, a rather viable decision: It is relatively easy to deploy and configure, even easier to add content to and able to expand dynamically according to the growing needs of the project. Wordpress provides more than twenty five thousand plugins and more than a thousand themes, making it easily adaptable to our needs. WordPress is known to produce user-friendly websites. A web 2.0 approach has been followed making the PRISTINE website more a web communication platform than a static web site. Moreover, there are no licensing fees, since WordPress is released under an open source licence (GNU General Public License).

The website is hosted in the servers of i2CAT, Barcelona.

2.1. Main Objectives

The objectives for the website is to support the project's dissemination efforts by providing a central location for public project information, specific RINA content, and even information pertaining to other projects and events that may be relevant to the project's goals.

Our aim for the website is to define a vehicle that allows us to showcase the project, but also to convey relevant RINA-related information to a broad audience. This can be supported adequately by other social media tools (such as Twitter or Slideshare), and provide the means to measure the dissemination efforts.

An important role of the project web site is also to provide a directory of the information produced in the project, such as press releases, presentations, publications, software and pubic reports or deliverables that are produced within the scope of the project.

2.2. Strategy

The main strategy behind to website is to i) provide an introduction to the project objectives, partners, work packages and use cases ii) provide relevant and well-timed

information through a blog and a news and events section, issuing news, opinion articles, and references; iii) provide access to static information, such as reports, deliverables, presentations and publications and iv) provide pointers to relevant RINA news, tutorials, papers and other material in order to allow the visitors to learn more about this technology and its potential.

The blog is also considered to be a promotional tool, where the posts are used as a point of interest for potential readers, thus attracting more visitors to the website. This creates an entry point into the project, and supports the PRISTINE/RINA promotional efforts, as well as in the long run providing information about the project open results (simulator, RINA SDK, programmable policies) and all of the PRISTINE dissemination and training material.

The sustainability of the posts to the blog and news and events section is ensured by the partners' commitment towards providing at least one post per month. This creates a reliable stream of information, thus increasing the chance of captivating a wider audience around RINA and EU ICT topics.

2.3. Implementation and Features

General structure

The website will be used as the main vehicle of dissemination and interaction with the public who seeks information about the PRISTINE project and its areas of work. In addition to giving information on the project, the website will also be used as the main vehicle to make available all the public deliverables, as well as other public reports that the project may decide to produce. The website will be maintained for at least one year after the end of the project to assist continued dissemination efforts.

The website's content is structured through the main menu, showing the key items to be presented. We decided the sections and subsections of the website to be:

- Home
- The project
  - Overview
  - Objectives
  - Partners
  - Work Packages

    - Use cases
- Research
    - Deliverables
    - Technical Reports
    - Publications
    - Software
    - Presentations
- News & Events
- Blog
- RINA
- Contact

Home page

The home page briefly introduces the PRISTINE project and gives the important relevant information. The figure below shows a preview screenshot of the home page. Its structure is divided in five differentiated areas:

- **The header**. It contains the project logo, the menu, links to PRISTINE's twitter account and the RSS feed of the website and a sentence that captures the project potential impact: "*PRISTINE will take a major step forward in the integration of networking and distributed computing*".
- **The slider**. The purpose of this element is to summarize the main goals of the project in a short, clear way, using nice images from nature to emotionally engage the website visitor. The slider features four slides, each one visible for 10 seconds, which introduce the following key areas of PRISTINE:
    - Exploring Programmability in RINA. *PRISTINE will be developing a Software Development Kit for the IRATI Linux prototype, to enable researchers to customize the behaviour of their DIFs.*
    - Researching advanced policies for DIFs. *PRISTINE will be researching sophisticated policies for congestion control, distributed resource allocation, efficient routing, authentication, authorization, encryption and multi-homing.*
    - First DIF Management System. *PRISTINE will be researching, prototyping and experimenting a DIF Management system capable of managing multiple layers at once.*

- Experimenting with realistic use cases. *PRISTINE will use RINA to develop practical, demonstrable, and commercially exploitable solutions to address existing networking limitations.*

- **A featured pages area**. Provide direct links to three pages of the website, showing a picture and a brief explanation for each page. They are currently used to link to the Objectives, Partners and Use cases sections.
- **Summaries of the latest posts**. A summary of the latest posts in the blog and the *News and Events* sections is shown at the bottom of the page.
- **The footer**. It displays the twitter and RSS feed links and acknowledges the European Commission as a funding body for the PRISTINE project.

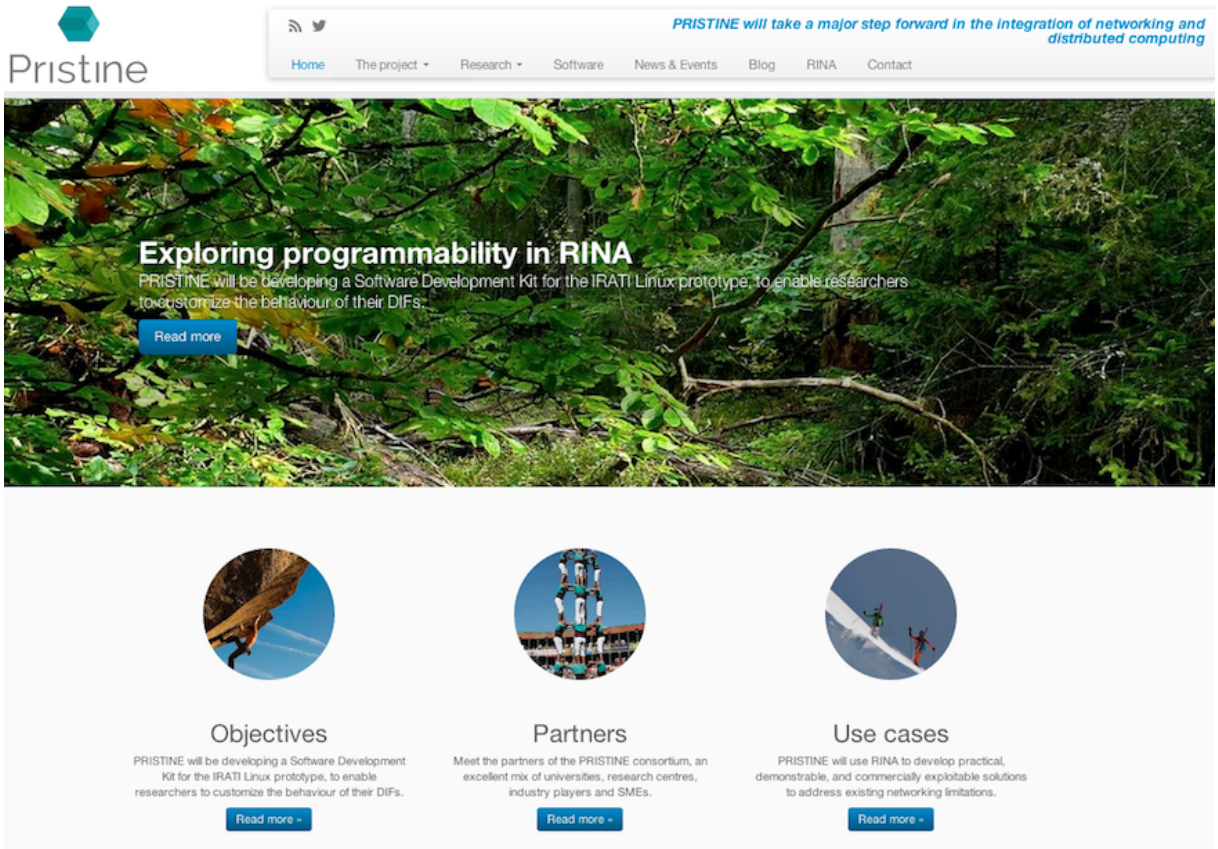

Figure 1. Home page of the PRISTINE website

The project

This section contains an overview of the project and its objectives, each individual partner participating in the project, the work expected to be conducted during the project organized under work packages and a brief description of the use cases targeted by the project. Figure 1 shows a screenshot of the partners overview page.

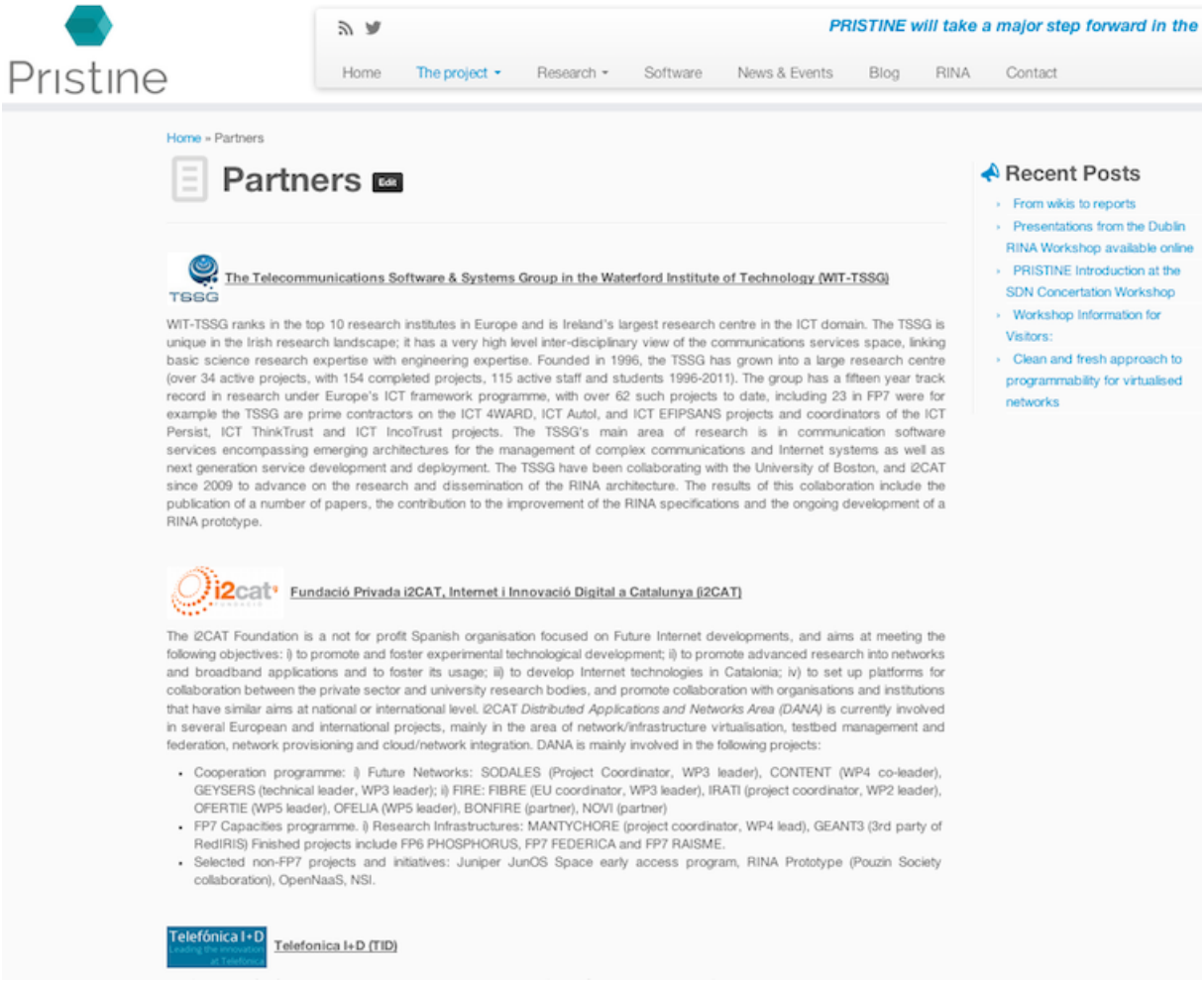

Figure 2. Partners of the PRISTINE consortium

Research

The Research section concentrates all the outcomes of the project. We have included subsections for the public deliverables, the presentations, the publications, the technical reports and the software that will be produced during the project's lifetime. Figure 2 shows the Presentation subsection, which provides a link to each presentation document in PDF format, as well as Slideshare's embedded viewer.

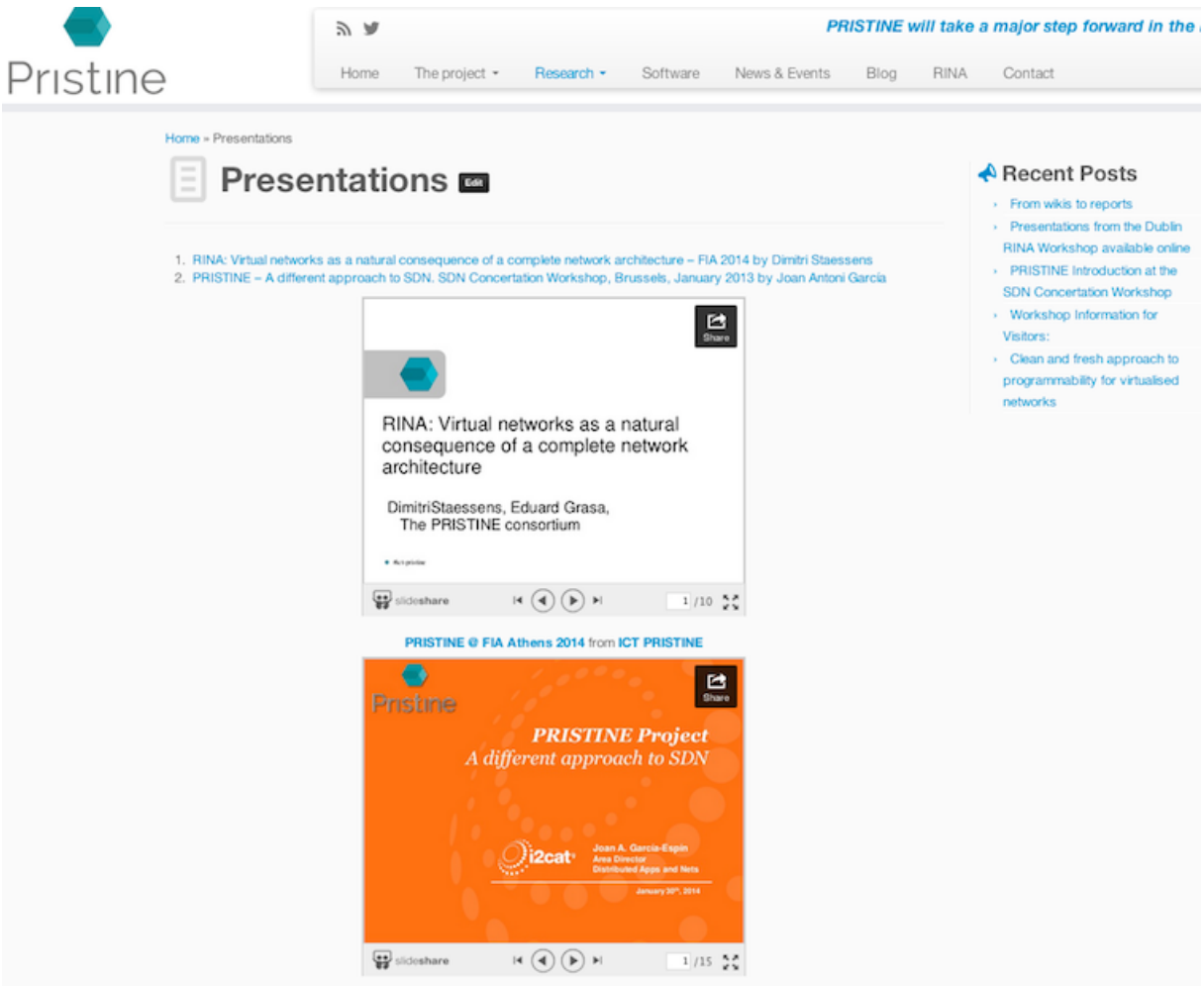

Figure 3. Presentations by the PRISTINE project

News and Events

The News and Events section provides updates on the latest news and events related to the PRISTINE project. News are dedicated to information about the project or its life-cycle, including descriptions of research results when those are made public. Events focus on PRISTINE's presence at national or international, academia or industry, scientific manifestations. Each *News and Events* post is automatically disseminated via the PRISTINE Twitter account.

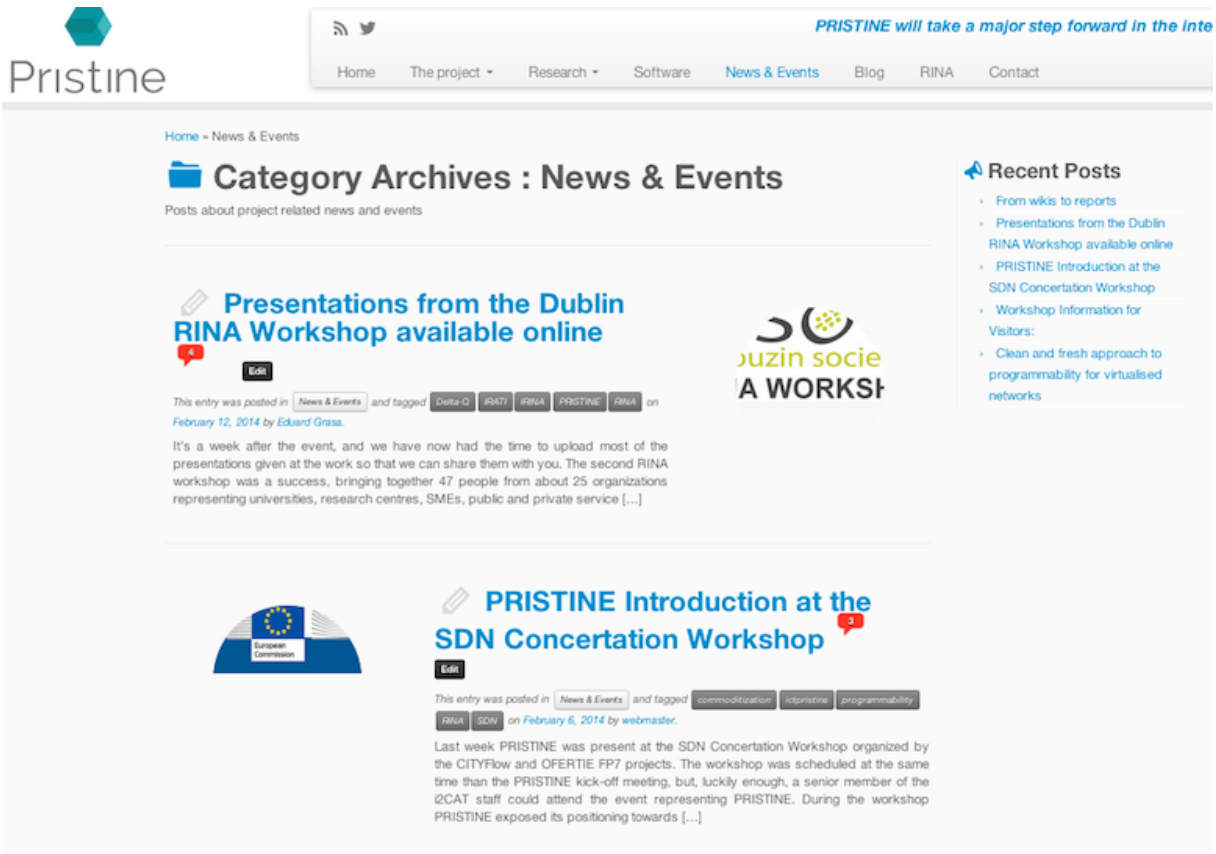

Figure 4. News and events

Blog

The blog is a broadcast dissemination channel in which opinions of the persons involved in the project will be posted on topics that are relevant to the project. The blog is part of the website. However, while the main website is positioned as an official channel containing information with the project as the responsible source/authorship, the blog is a more informal one, where any individual from the project will post in their own name and responsibility, not necessarily reflecting the position of the project as a whole. Each *Blog* post is automatically disseminated via the PRISTINE Twitter account.

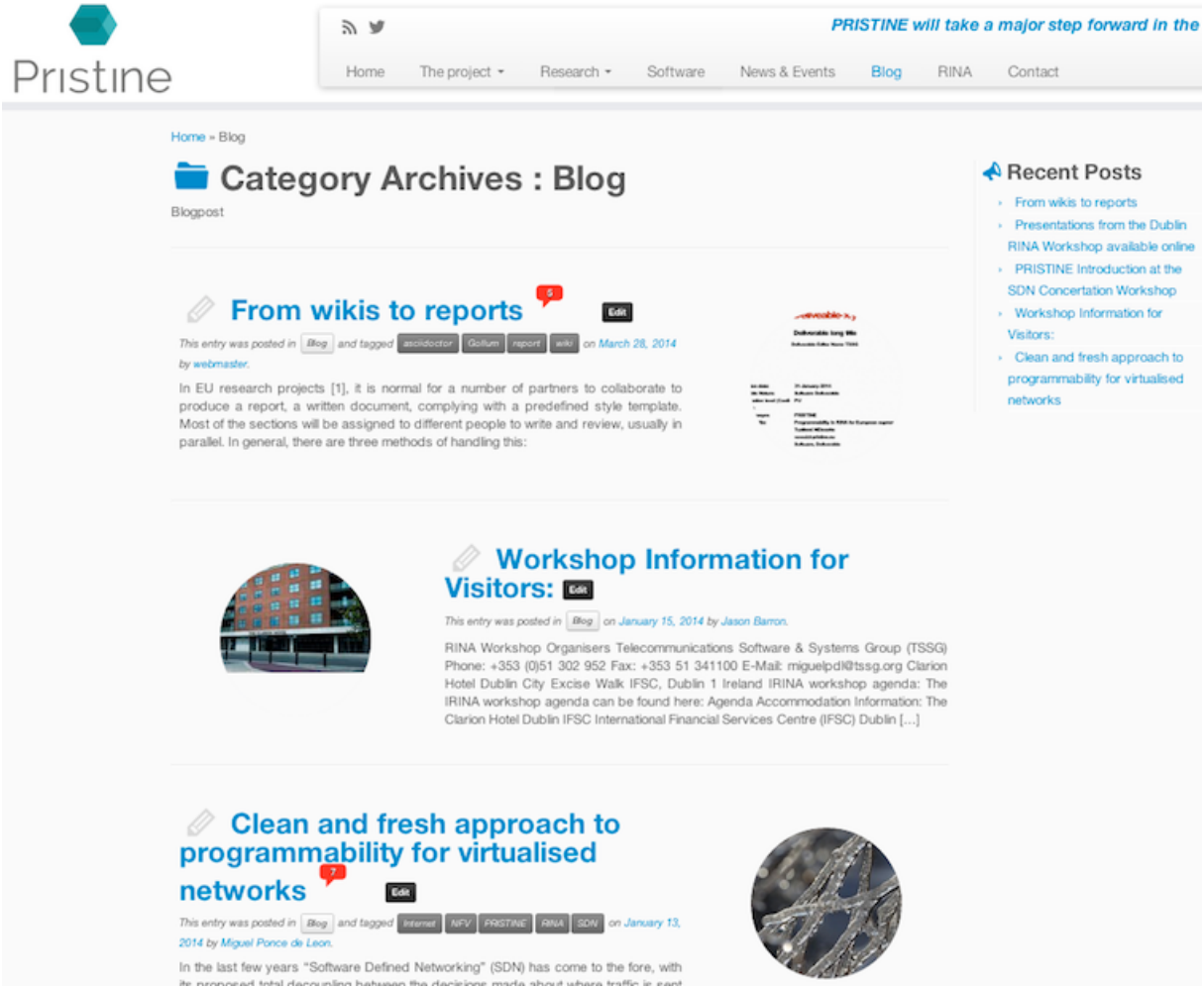

Figure 5. Blog

RINA

This section provides links to learn more about the RINA architecture as well as about other national and international research activities related to RINA.

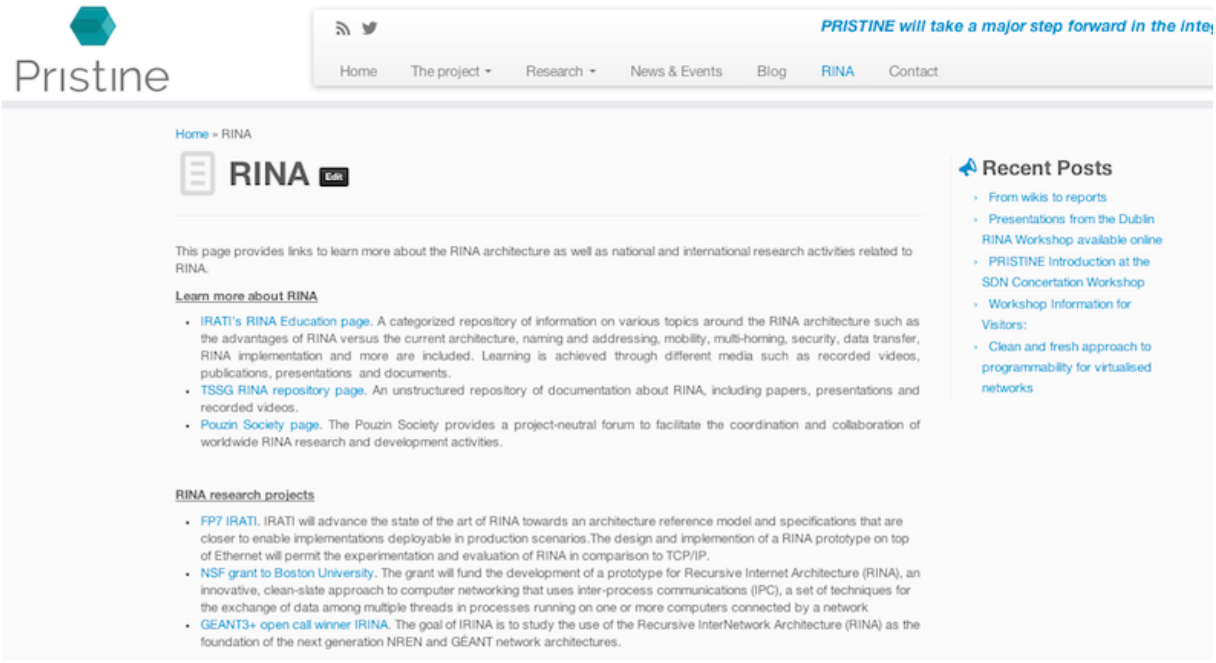

Figure 6. Links to RINA online content

Contact

The Contact page provides a contact form to be used by those interested in PRISTINE, to easily get in touch with the project personnel. The form uses a CAPTCHA test upon submission to ensure that the response is generated by a human being.

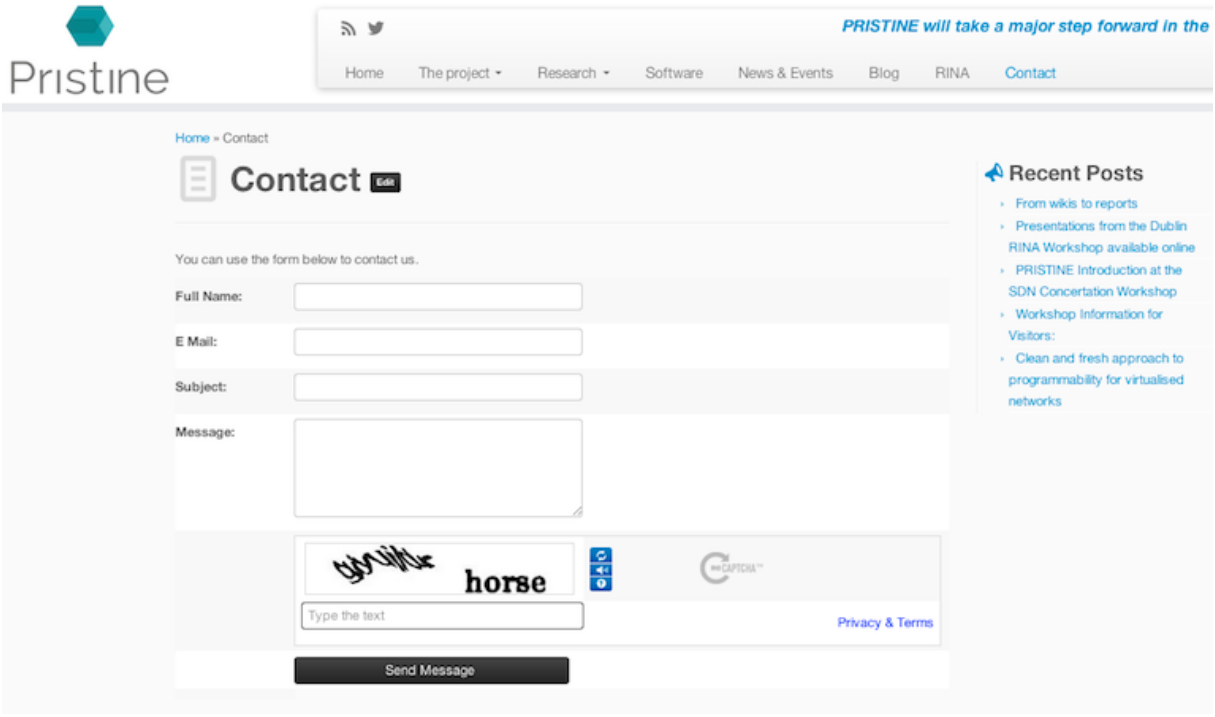

Figure 7. Contact form

3. Social Media

In the current communication context it is very important to maintain an active presence on social media platforms. Out of the available tools we've identified Twitter, Slideshare and LinkedIn as the more important tools for the project. While other tools are available, such as Facebook, they do not clearly provide access to the target audience that is intended for the project or require a large amount of resources to become an effective tool.

3.1. Twitter

Twitter allows posting of short messages relevant to the project's content, to express opinions on networking, to announce results and events around PRISTINE and to engage in conversations with other Twitter users. It is a tool very complementary to the project website, since it can be used to disseminate new content available through http://ict-pristine.eu to people that is really interested on the project. PRISTINE's goal is not to get a high number of twitter followers, but to attract people who are really interested in the project topic and expected outcomes and with whom a relationship can be built in the future. As a secondary goal PRISTINE seeks to create the opportunities for re-tweets from other high profile key target participants in Twitter, thus making the project reach a very large audience.

The PRISTINE partners have access to a common PRISTINE account on twitter, @ictpristine[1], which is already followed by several users, and already produced several tweets. An overview of the PRISTINE twitter account in presented in Figure 8.

[1] https://twitter.com/ictpristine

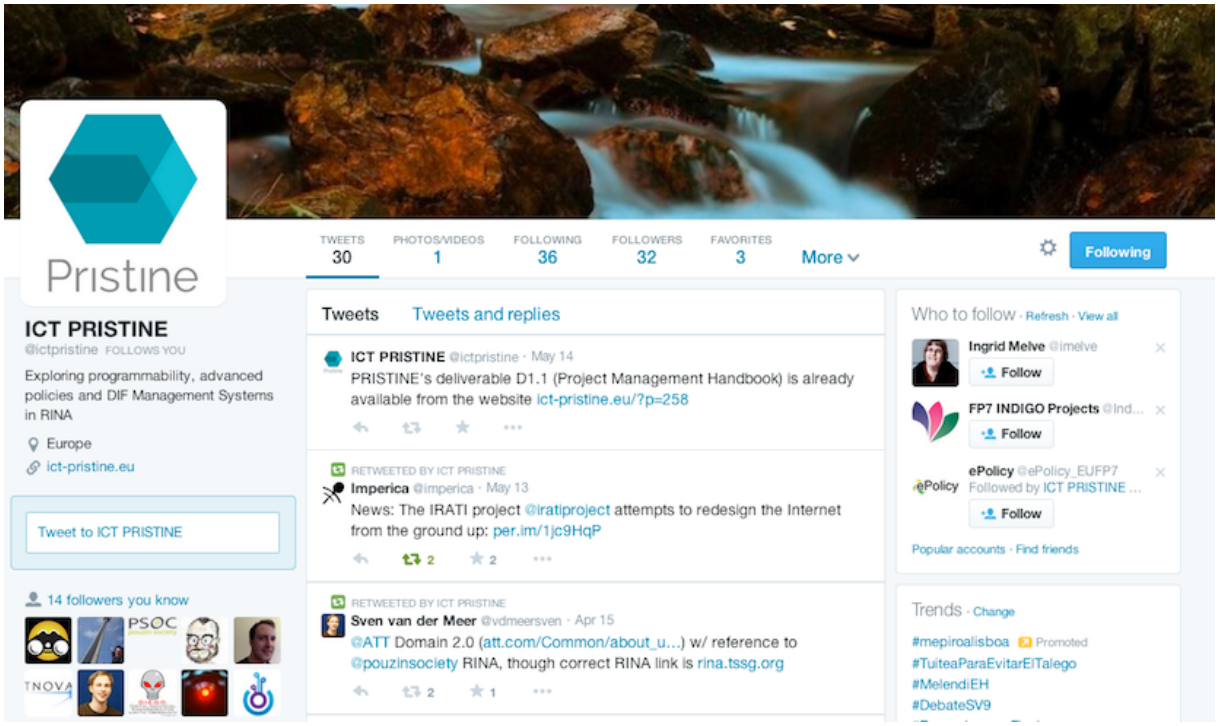

Figure 8. PRISTINE Twitter account

3.2. Slideshare

Slideshare provides a means to share presentations, videos, documents etc. PRISTINE uses slideshare as a repository of the project' public presentations. The presentations hosted at slideshare are also embedded into the PRISTINE's public website, enriching the content available through it.

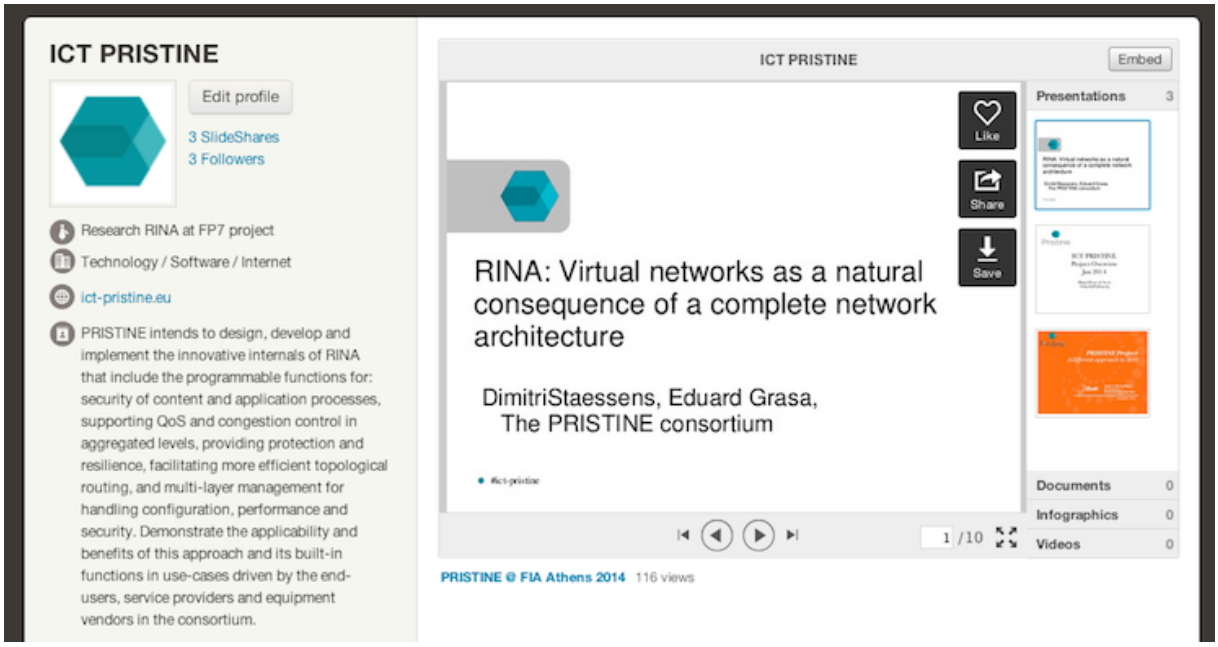

Figure 9. PRISTINE Slideshare account

3.3. LinkedIn

LinkedIn is the most successful professional social media platform. On LinkedIn, several computer networking dedicated groups exist, and given the importance of the target audience, it is imperative that PRISTINE establishes a presence on this social network. Since creating a successful LinkedIn group is very lengthy and time-consuming process, the PRISTINE team has chosen to identify and target a few selected groups that focus on computer networking, especially those that can be combined with PRISTINE use cases topics, and promote a concerted partner effort. An initial list of the potentially interesting groups is the following:

- **The "Network of the Future" Research Forum**[2]. The Network of the Future" Research Forum brings together scientists and engineers that are working on novel approaches that will enable to overcome the structural limitations of the current Internet, resulting from an increasingly larger set of applications and of devices to be supported in the future. Evolutionary and clean slate approaches are considered.
- **Future Internet Research**[3]. Forum for Researchers, Scientists, Engineers and any other interested individual, organization or institution working or sharing interest in Future Internet Research
- **Future of Communications**[4]. Forum to allow members of the Future of Communications newsletter network to respond to each newsletter, meet other members, and debate the issues raised. The group is only open to newsletter subscribers. The group is owned by Martin Geddes, a very well-known and reputed telecom industry consultant.
- **Software Defined Networks / Network Function Virtualization**[5]. Virtualization in the Enterprise certainly had a decisive impact on the architecture of server and storage infrastructure. We can also say that virtualization technologies together with advances in speed of access links were the basis for the establishment of the concept of Cloud Computing. However, the network infrastructure remains as an isolated point when discussing the concept virtualization. SDN and OpenFlow are technologies that break the paradigm of the current network architecture. These new technologies promise to establish a path to the real virtualization of networking infrastructure.

[2] https://www.linkedin.com/groups?home=&gid=1901993
[3] https://www.linkedin.com/groups?home=&gid=976357
[4] https://www.linkedin.com/groups?home=&gid=4105450
[5] https://www.linkedin.com/groups?home=&gid=4148824

- **Cloud networking**[6]. The Cloud Networking group was formed in order to provide a common ground for the introduction and advancement of cloud networking and distributed network computing technology.
- **Future Internet Research and Experimentation(FIRE)**[7]. FIRE has two related dimensions: on the one hand, promoting experimentally-driven long-term, visionary research on new paradigms and networking concepts and architectures for the future internet; and on the other hand, building large-scale experimentation facilities to support both medium- and long- term research on networks and services by gradually federating existing and new testbeds for emerging or future internet technologies.

This list will be updated in the deliverables reporting dissemination activities at the end of each year.

[6] https://www.linkedin.com/groups/Cloud-Networking-1099017
[7] https://www.linkedin.com/groups/FIRE-Future-Internet-Research-Experimentation-3361373

4. Analytics

An important part of the project is to actually assess the quality of the dissemination efforts. As such, several success indicators have been identified in the project's description of work. For the website, and associated services, it is important to keep track of several analytic metrics that can be collected from visitors (e.g. number of visitors, time spent on page, clickthrough rates, etc). Therefore, to capture this information, it is crucial to associate the website to an analytics service, that can collect information about visitors. To comply with this aim the project web site is associated with a Google Analytics (GA) account. GA provides the main source to quantify the outreach of the project website, complemented with data gathered from Twitter (followers, interactions with other users), Slideshare (number of views per presentation, followers) and LinkedIn (number of discussions, number of likes and comments per discussion).

4.1. Analytics Service

The Google Analytics (GA) service provides a wealth of information relating to the several key elements that can be used to determine the effectiveness of the dissemination efforts. While there are several key indicators mentioned in the description of work , the GA service can collect most of the identified information (which is omitted for brevity). A non-exhaustive list of information can be defined as:

- Visitor information (visits, unique visitors, page views, country, etc,)
- Browser information (technical browser details)
- Content Analysis (performance, viewed content, time spent on pages, etc.)
- Traffic sources (Sources, Search Engine optimization, Social Tools, etc.)

Ultimately this information can be combined into several reports. Presenting these reports will be under consideration as a Work Package 7 work item. Figure 10 shows the initial statistics of the PRISTINE website, covering the period from January 1st to April 30th 2014.

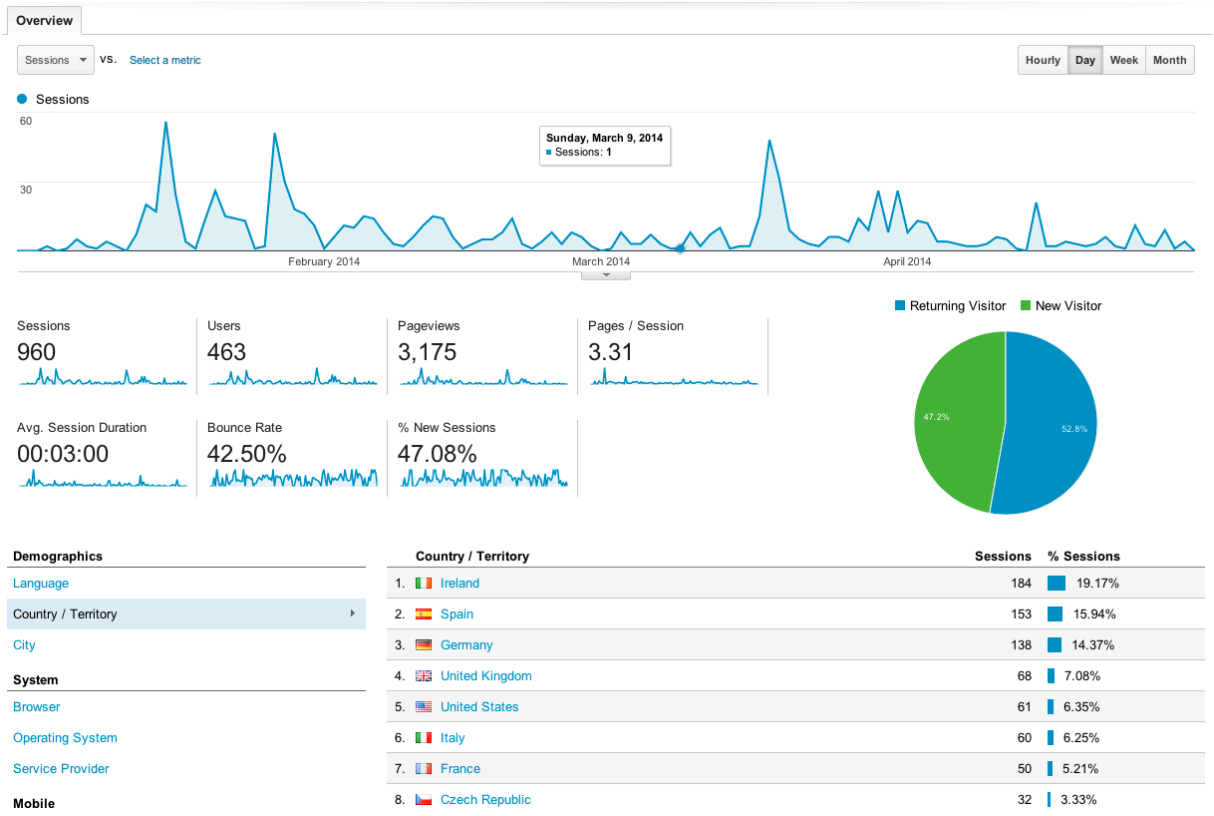

Figure 10. January - April 2014 PRISTINE website statistics

4.2. Twitter metrics

Even though is not directly providing an analytics service, several information embedded into the normal operation of a twitter account provides useful indicators to understand the impact that PRISTINE is reaching. Among the useful data we can find:

- Number and relevance of followers of the PRISTINE twitter account
- Replies to a tweet (conversation rate)
- Favorites (applause rate)
- Retweets (amplification rate)

Figure 11 shows a screenshot of the PRISTINE twitter account. Metrics acquired via twitter will also be part of the dissemination reports of WP7.

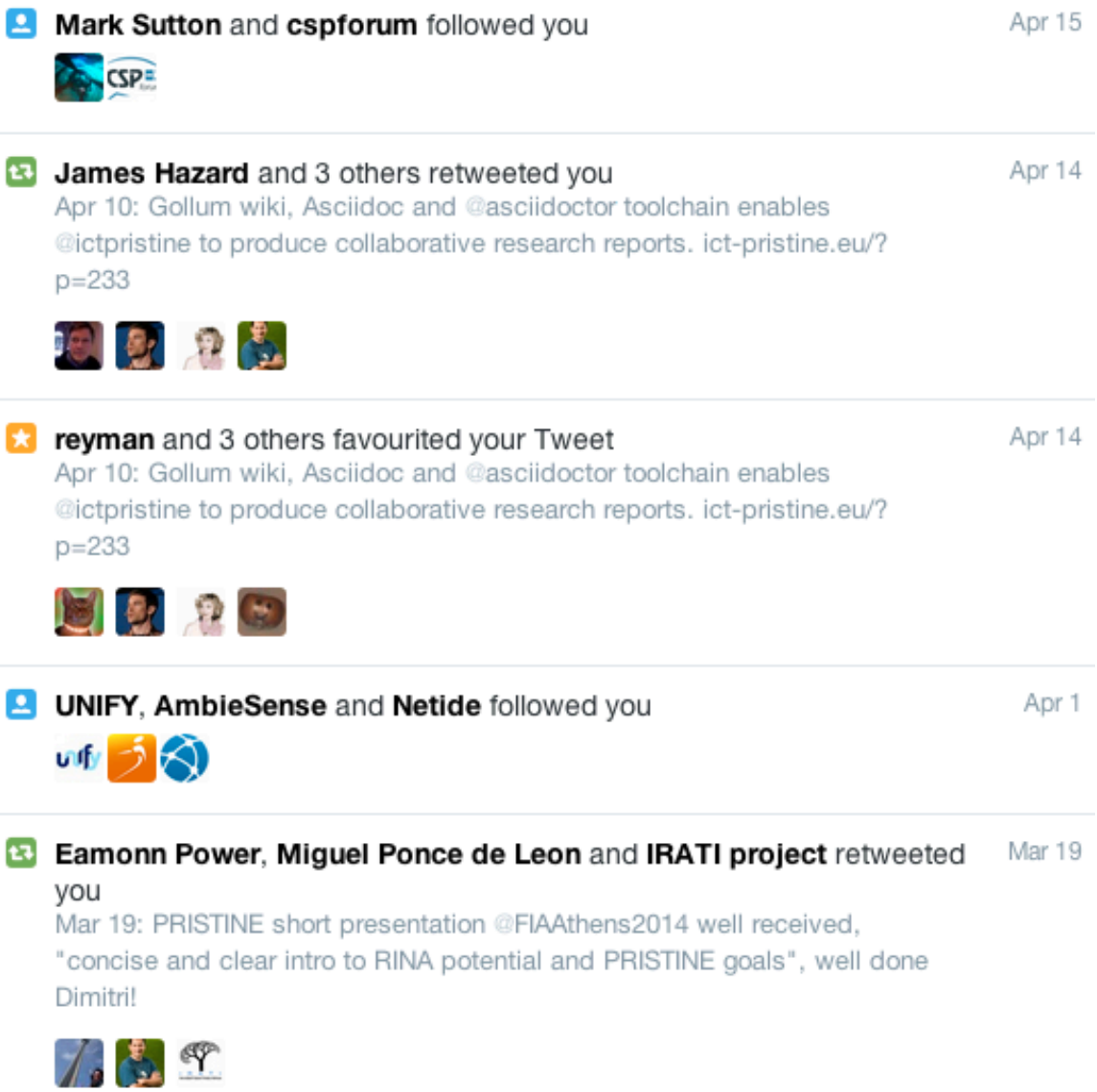

Figure 11. Screenshot showing interactions of PRISTINE twitter account with other users

4.3. Slideshare statistics

Slideshare provides per-presentation statistics that allow its users to get a feel of the interest their presentations have raised. Specifically, as shown in the next figure, Slideshare provides information on the number of views, downloads, likes and comments for each presentation uploaded to the platform.

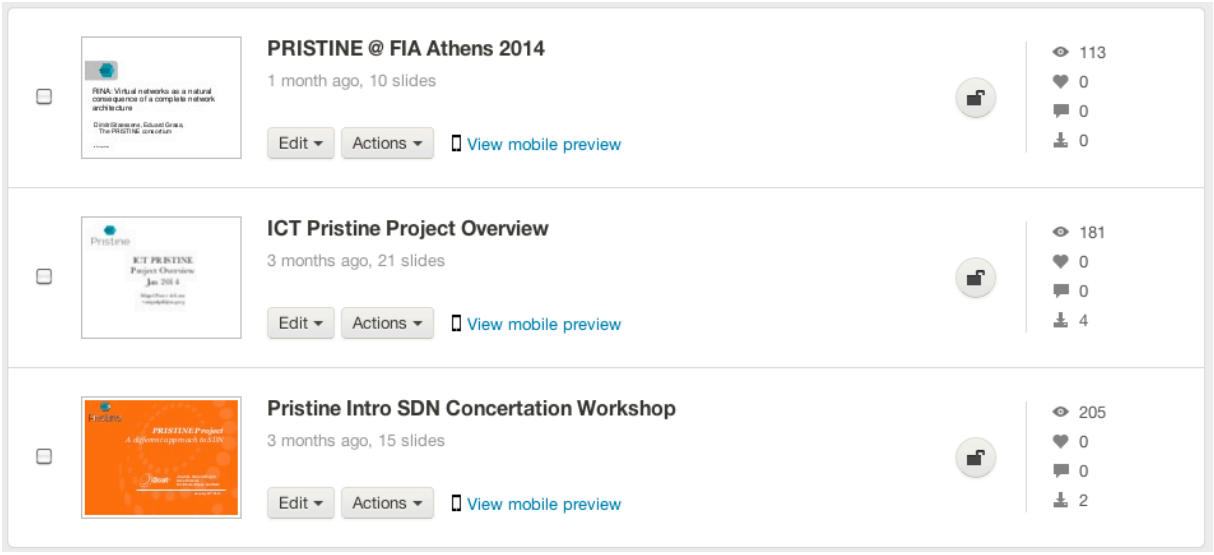

Figure 12. Screenshot showing visualizations and downloads of PRISTINE presentations uploaded to slideshare

4.4. LinkedIn statistics

Even though PRISTINE will not have a dedicated LinkedIn Group, PRISTINE members will be participating in a number of key groups of interest to the project; initiating discussions related to RINA and/or PRISTINE results. The number of comments as well as the number of "likes" obtained by each conversation is a useful metric to measure the degree of attention that PRISTINE/RINA has raised within each group.

5. Conclusion

To tackle the potential PRISTINE target audience it is necessary to use all the available dissemination and communication mechanisms. In this document, we've identified the PRISTINE website as a main dissemination vehicle, and presented the steps taken to deploy the website in an adequate time-frame, and with the potential to reach a broader audience.

The website provides one of the main entry points to the information and dissemination provided by PRISTINE, and as such needs a well-defined and concerted strategy. We've also identified the necessary support tools, such as social media tools and metric support to provide a comprehensive approach to today's modern and complex information dissemination channels.

These tools allow PRISTINE to confidently explore several dissemination channels and thus maximize the success and reach of the project.