



ISS-EWATUS
Annex III to the:
D7.2 REPORT OF THE VALIDATION AND EVALUATION

**The WaterSocial Dissemination Strategy for the Validation
of the WaterSocial.Org platform: assumptions and outcomes**

Authors: Safa El-Jamal, Andrea Capiluppi – Brunel University

Table of content

1. INTRODUCTION	3
2. METHOD OF DISSEMINATION STRATEGIES	4
2.1 OFFLINE ACTIVITIES	6
2.1.1 <i>Competitions</i>	6
2.1.2 <i>School Visits</i>	7
2.2 ONLINE	7
2.2.1 <i>Publications</i>	7
2.2.2 <i>Social media</i>	8
2.3 THE PILOT	9
3. REPORT OF THE IMPLEMENTATION OF THE DISSEMINATION STRATEGY	10
3.1 OFFLINE	10
3.1.1 <i>Competitions</i>	10
3.1.2 <i>School visits</i>	11
3.2 PUBLICATIONS	12
3.2.1 <i>Consortium newsletter</i>	12
3.2.2 <i>Newsletters and blogs</i>	12
3.3 SOCIAL MEDIA.....	12
3.3.1 <i>Web link</i>	13
3.3.2 <i>Instagram</i>	14
3.3.3 <i>Twitter</i>	14
3.4 OVERALL USER DEMOGRAPHIC.....	16
3.5 OVERALL USER REFERRAL	18
3.6 WATERSOCIAL CONTENT GENERATION	19
3.7 CLOSING THE LOOP.....	19
4. WRAP-UP.....	20
5. THE RESULTS OF THE VALIDATION OF THE SOCIAL-MEDIA PLATFORM	21
ACKNOWLEDGEMENTS	24

1. Introduction

Background

WaterSocial.org is an advanced gamified social media platform specially designed for promoting efficient water use. This platform is unique in its vision to harness gamification and social media to reinforce water saving behaviours. The platform is based on the activities for users, their interactions with other users and an overall gamification layer, which rewards them in their activities and interactions. Members can monitor their progress within the WaterSocial community through the leader board.

The WaterSocial platform (www.watersocial.org) is a social network based on gamification, user feedback and behavioural changes. A social network is an online community in which people with common interests, goals, or practices interact to share information and knowledge, and engage in social interaction. Gamification is a recent development trend of persuasive technologies that present the systems to users in a game like manner. Gamification is generally defined as the use of game design elements in non-game contexts. With a growing popularity of gamification systems in the markets and research fields, gamification is argued to be a next generation method for marketing and customer engagement and has been proposed as a design pattern for persuasive systems.

Aim

This aim of dissemination was to influence behaviour via the Watersocial platform and deliver the message to a wide population and sustain user participation. The majority of contribution in online social production communities is done by a few contributors. Most participants are information consumers. It has been reported that about 90% of the total membership will never contribute, while others may be learning about the community and may transition into contribution and organization-related activities as they gain more experience. For this reason the objective is to engage a large number of users through shareable content on social media platforms and direct users to visit the WaterSocial platform.

Method

This dissemination strategy focused on a selected number of activities. The three types of activities were, 1. Online activities: a) Social media: the use of social media platforms to share water saving messages. b). Publications: newsletters and blogs that detailed the WaterSocial platform. 2. Offline activities: a) Competitions: to enhance the gamification layer. b) School visits: pupil engagement that showcased the WaterSocial platform. These activities are related as they all publicized the WaterSocial platform by promoting water saving messages. Their monitoring and analysis help in evaluating whether a measurable user uptake has been observed and the types of messages used and the degree of relevance to users.

This report describes the results of the dissemination activities as currently undertaken in the context of the ISS-EWATUS European project.

The structure of our report is based on two parts, as following:

1. the strategy of the dissemination activities as the *input* to our approach;
2. the main results of the activities, as the *output* of the dissemination activities.

2. Method of dissemination strategies

A number of dissemination activities were carried out between 1st January 2016 and 30th December 2016. Strategies were tailored to two target audiences (figure.1). First, water stakeholders. The reason to attract water stakeholders was because this group are already interested in water conservation and could generate water saving content on the WaterSocial platform. Activities also endeavoured to engage the general public. This group posed the hardest challenge to engage, however this group was targeted as they offered more impact if they used WaterSocial and learnt to reduce their water wastage.

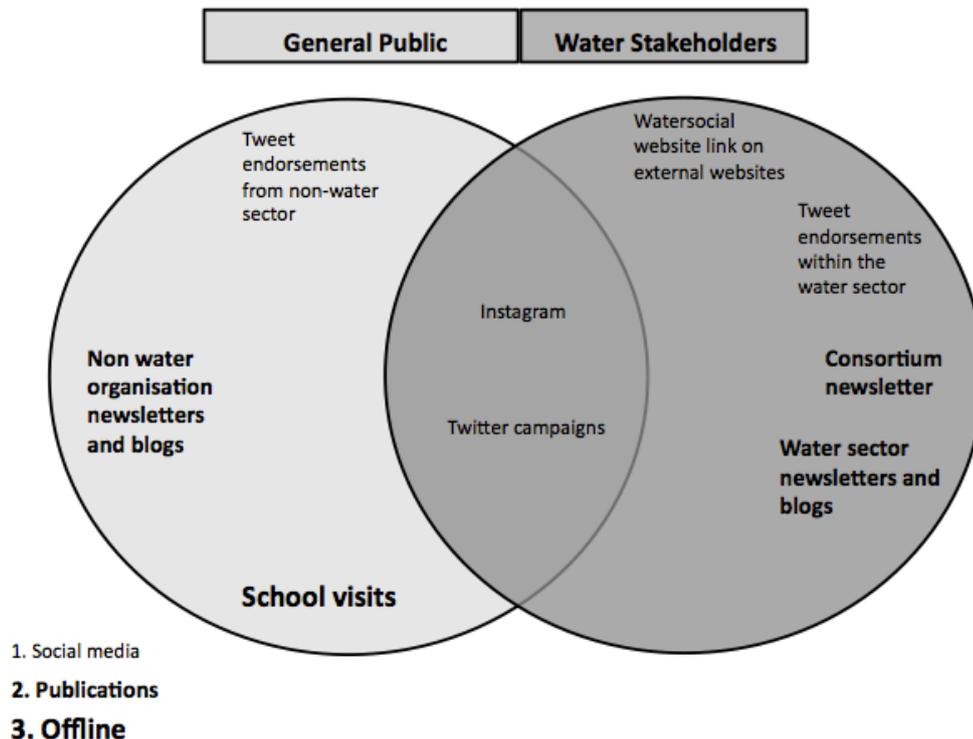


Fig. 1. Target audience and dissemination activities

Two types of strategies were used in conjunction to target the two types of audiences: online and offline activities. See figure 2.

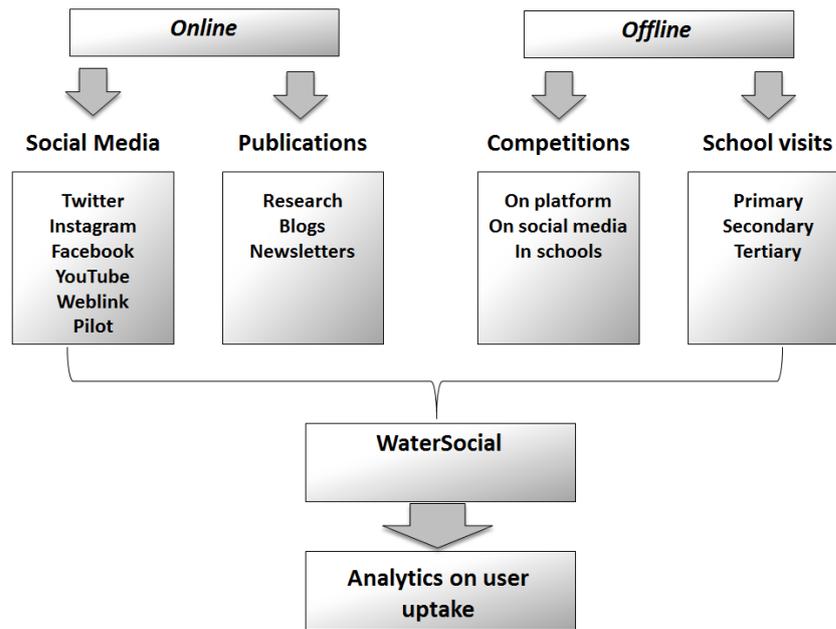


Fig. 2. Dissemination strategy for the WaterSocial platform

In order to effectively attract and sustain new users to a social network, it has been found that content needs to be generated regularly to maintain engagement. Active and contributory members are also necessary to activate the gamification layer and allow for competition amongst users. Therefore, the objective of these dissemination activities was to engage people on sustainable water use, direct them to watersocial.org, sustain visitor numbers, gain registered members, and for users to generate content on the WaterSocial platform.

This dissemination report will outline the method of each input, as shown in figure 2. These inputs will be evaluated in Section 3 by measuring the WaterSocial platform's web analytics. Where possible, the amount of user sessions generated by each task will be examined. Where this data is not available, evaluation will be made using other existing figures. Taking in the resulting online activity and new member figures there will be an assessment of the level of generated content as a result of the gamification layer. This process is illustrated in figure 3.

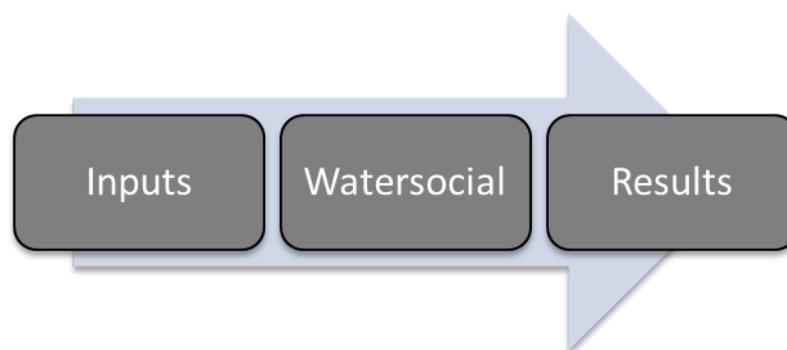


Fig. 3: Evaluation of Dissemination Strategies

2.1 OFFLINE ACTIVITIES

Offline activities were selected as a method to connect with groups of people who may not otherwise discover WaterSocial organically online. These activities were a mixture of school visits and facilitating competitions that would motivate people to enter online.

2.1.1 Competitions

Competitions were a key element used to promote use of the platform and grow the WaterSocial 'brand'. Competitions were devised to enrich the gamification layer of the platform. Three types of competitions were designed 1) exclusively for WaterSocial members on watersocial.org, 2) to the general public on social media, and for 3) school pupils during school visits.

The type of competitions:

- 1) Competitions on watersocial.org were based on a points system. Users needed to reach the top of the leader-board in order to win. Users gain points from every task they carry out on the platform, for example – entering their water consumption into the Water Diary feature. Therefore, users could choose the activities they carry out to earn the most points.
- 2) Social media competitions asked the public to enter using a specific task, for example sharing a photo of water. These photos would later be 'pulled' onto the See and Share map on the platform as contributions.
- 3) School competitions combined the two approaches of points and setting a specific task. A points target was set and pupils were informed that they could share photos of water or water saving tips to earn the points.

The process:

WaterSocial competitions were designed to be simplistic and repeatable. The design, figure 4, seeks to exploit the follower base of WaterSocial, on watersocial.org and social media channels, to attract sponsors who would like to support the ethical cause of water conservation, whilst expanding their online reach to potential new users/customers. The end result is new users/customers for both WaterSocial and the Sponsor. This process could be easily replicated by project partners and by other platforms.

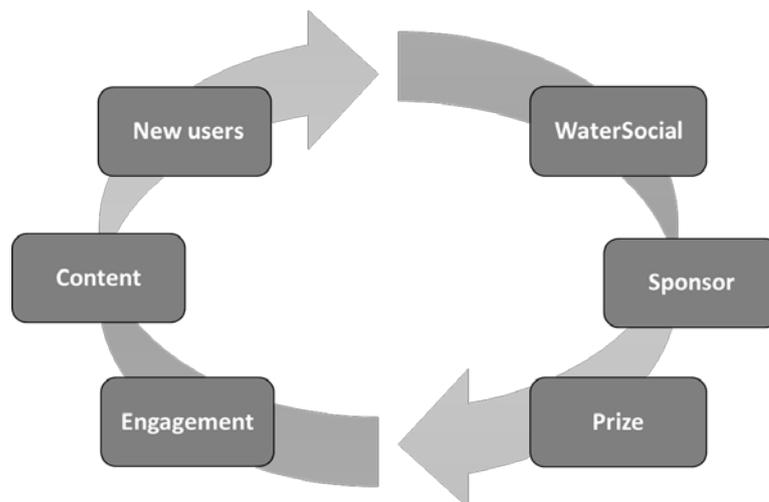


Fig. 4: Competition Process



2.1.2 School Visits

Push marketing, which are typically offline activities, pushes content out to prospective users. School visits were used as a push mechanism. Engaging with school pupils is aligned to Government policy, which encourages water efficiency to be taught to pupils. London was chosen as the location due to the city being situated in a water stress area.

Primary School

Holy Trinity COE Primary School was chosen due to its large size and the diversity of the pupils. A whole school assembly and water workshops were carried out on March 14th 2016. 360 pupils were introduced to WaterSocial on the day.

Secondary School

At Godolphin and Latymer School, London, 8 workshops were delivered to 44 Year 7 pupils on 7th and 28th of November. Pupils were set the challenge to compete between classes to generate the most points on the platform through the sharing of photos and tips.

Tertiary Education

University of Silesia, Poland, was chosen as along with Germany, Spain, Italy and the UK, Poland has the least available water per capita. At the university open day on April 6th 2016, around 50 students were invited to browse the WaterSocial platform.

At Brunel University, London, a competition was run from 26th to 30th September 2016. Students were invited to enter an online competition to share their best water photo via Twitter, Facebook, or Instagram. A prize was on offer for the first and runner up places.

2.2 ONLINE

Newsletters and blogs offer an inexpensive and relatively easy way for organisations to gain visibility. They provide dynamic platforms, which allow users to browse and share information, and interact with others on websites.

2.2.1 Publications

WaterSocial newsletter

News bulletins were shared via email with WaterSocial members and consortium partners three times a week. These emails would highlight the weekly activity on the platform. The first message would outline the theme for the week, for example learning about embedded water. The second email would invite people to join in a quiz on water, where correct answers would be rewarded an extra 100 points. The last email would sum up the weekly activity on the platform, which showcased the 'best photo', 'top tip' etc. These messages were used to educate and encourage the members to logon to the platform.

Newsletters and blogs

WaterSocial was included in the March edition of the Waterwise newsletter. This newsletter was chosen as Waterwise is the leading authority in the UK's for water efficiency.

Blog posts enable a detailed story to be expressed, which can attract readers to visit a website for more information. WaterSocial featured as a guest blogger on The Blueprint for Water website. This organisation was chosen because it is a coalition of 16 influential

environmental, water and fisheries organisations within the UK. For this reason it was estimated that the blog has a large online reach.

2.2.2 Social media

Majority of the online adult population use social media. Timely and relevant information can be quickly and easily shared to a vast audience. Social media was a key activity in the pursuit to increase the online activity of the platform.

Website link

A reciprocal web link was placed between the Rain Catcher Ltd website and the WaterSocial platform. This was to harness the online users from the Rain Catcher Ltd website, who are already interested in water saving, and direct these users to relevant content on WaterSocial.

Instagram

Instagram is a photo sharing system and considered one of the most popular on the Internet. It was chosen as a platform to broadcast WaterSocial due to it having 400 million active users in 2016, and because photo sharing is also one of the main activities on the WaterSocial platform. Some 28% of online adults use Instagram. 55% of online adults ages 18 to 29 and 28% of online adults aged 30 to 29 use Instagram.

Water photographs and images of water saving tips were shared on the WaterSocial Instagram account. Almost all posts had a link to the platform and used the hashtags #WaterSocial, #watertip, #waterphoto, #savewater.

Twitter

Twitter is a social network that allows users to share tweets, which are text-based posts of up to 140 characters. This social network was used to attract some of the 320 million active users to the WaterSocial's platform. Some 23% of all online adults use Twitter. Twitter is more popular among younger adults - 30% of online adults under 50 use Twitter, compared with 11% of online adults ages 50 and older daily. Both Twitter and Instagram were chosen as their demographics reflect the target audience for the WaterSocial.

Tweets were posted on Twitter that referred followers to more in-depth information, photos, and questions, Source, on the WaterSocial platform. Almost all WaterSocial tweets used the hashtag #WaterSocial and included a link to the WaterSocial platform. This was implemented to increase the increase the referral rate of users from Twitter to the twitter. All content generated on the WaterSocial platform, such as photos and tips, were automatically generated as a tweet with a link to the WaterSocial webpage. Twitter was also used to create organic tweets. These manual tweets were designed to inform and engage followers on water saving and reflect the existing content on the WaterSocial platform.

Facebook

Facebook allows users to share videos, photos, news articles and write messages onto their friends 'timeline'. Facebook has 845 million active users. Similarly to Instagram and Twitter, posts were shared on Facebook that exhibited the water saving ethos of the platform and which also reflected the key activities of the platform: photo and tip sharing. In addition, posts were share that tapped into Facebook users' interests, such as sharing short videos and links to news articles, which all related to water conservation.



YouTube

Web links to the WaterSocial platform were shared on relevant water efficiency videos on YouTube. This activity was chosen to direct people who are already interested in learning about water conservation to the WaterSocial platform.

2.3 The pilot

Two pilot studies were conducted on the WaterSocial platform. The objective of the pilots was to test the gamification impacts on users. The first pilot ran for three weeks from 15th February to 6th March 2016 involving 40 people. It incorporated both the social media and publication strategies. The members were recruited from the UK (14 people), Greece (15 people), and Poland (11 people). There were 16 male and 24 female participants, aged between 18 to 64 years of age.

During the pilot participants were invited via weekly emails to take part in weekly online gamification activities. Feedback obtained from a participant survey showed that the sizeable majority of users enjoyed the gamification element of the social media platform and would recommend WaterSocial to friends. During the pilot users actively provided a range of information. This included a total of 80 photographs and water saving tips and a total of 361 user inputs into the online Water Diary. The activity that users most engaged with was the Water Diary. It was revealed that the average shower time of all users who entered their data was around 12 minutes.

The second pilot ran for 6 weeks from 20th June to 31st July. There was 20 participants from the UK. A total of 15 females and 5 males participated. Participants were encouraged to share content to win prizes. A total of 16 pilot users actively generated content on the platform, which amounted to a collective 7,027 points.

3. Report of the implementation of the dissemination strategy

The metrics for evaluating the success of the dissemination strategies are

- The reach of the activity
- Where possible, the WaterSocial platform user referral from the task
- Overall, measuring the user participation/ user content generated on the platform

The online reach in the application of media analysis, reach refers to the total number of different people or households exposed, at least once, to a medium during a given period. User referral is the reported visits to a site from sources outside of a search engine. When someone clicks on a hyperlink to go to a new page on a different website, Analytics tracks the click as a referral visit to the second site.

3.1 Offline

3.1.1 Competitions

Competition tasks were tailored to the audience: Primary school - to simply identify 'water smart' actions, Secondary school - to allow pupils to explore and compare what users from across the world had shared and to compete for points, Tertiary and general public - to compete for prizes.

At each level: primary, secondary and tertiary, a different element of the WaterSocial platform was tested. Firstly, the water saving ethos, secondly, the gamification layer, and lastly, whether the WaterSocial competition model could be effective at engaging users on existing social media platforms.

In 2016 a total of 11 competitions were run. Four on the platform and six on WaterSocial social media profiles across Twitter, Instagram and Facebook. Prizes ranged from tickets to nature reserves to water saving devices. Sponsors included: Simian Mobile Disco, Brita, Kew Gardens, London Wildlife Wetland Trust, Better Lido, Aqualogic, AquaReturn, More Energy Gym, Burrito Kitchen, Thames Water, and Battersea Park Zoo. Pilot competitions on watersocial.org saw 40 active users contribute to the platform. Competition details can be seen in Table 1 below.

No.	Task	Audience	Prize	Platform	Length	Entries
1.	Points on watersocial.org	WaterSocial members	Tickets to see a band	Watersocial.org	4 weeks	24 actives users
2.	Points on watersocial.org	WaterSocial members	Tickets to nature reserve and wetlands	Watersocial.org	6 weeks	16 active users
3.	Photo of water	WaterSocial members & general public	Water filter	Social media and watersocial.org	7 days	57 photos
4.	Photo of water	WaterSocial members & general public	Tickets to swimming pool	Social media and watersocial.org	7days	5 photos
5.	RT and follow	General public	Tickets to wetlands	Social media	7 days	459 users

6.	Photo of water	General public	Water butt	Social media	7 days	13 photos
7.	Photo of water	General public	AquaReturn	Social media	10 days	18 photos
8.	RT and follow	General public	Water butt	Social media	14 days	1,417 users
9.	Points target	Secondary school pupils	Workshop on mobile apps & shower timers	WaterSocial	2 weeks	6,459 points
10.	Photo of water	University Students	Gym membership	Social media	1 week	48 photos

Table 1: Competition Tasks, Platforms and Outputs

A total of 141 photos were shared as a result of WaterSocial competitions on social media. The channel with the highest user engagement rate, across social media and the WaterSocial platform, was Twitter. Twitter's platform provided an effective channel for instantly engaging with a wide audience, which resulted in user content being generated with the relevant competition hashtag.

3.1.2 School visits

Primary Schools

Due to school protocol, primary school pupils are too young to use the WaterSocial platform unsupervised. Pupils were set the task to take photos to be shared on the platform by their teachers. The aim was to have the pupils consider the concept of WaterSocial, which is to demonstrate and discuss water saving behaviours. Pupils fully engaged with the activity to take photos to identify 'water smart' and 'water silly' areas around the school.

A total of 360 primary school pupils have been introduced to the WaterSocial platform. A group of 26 students took over 100 water related photos to share on the WaterSocial platform. Due to duplication, five photos were uploaded onto the WaterSocial see and share interactive map.

Secondary Schools

Having gained satisfactory feedback that the primary school pupils had connected with the water saving concept of WaterSocial, it was time to explore pupil engagement with the gamification element of WaterSocial. To do this, a cross class competition was devised to set the pupils the challenge to reach a points target through the sharing of photos and tips on the platform.

Four classes of Year 7s were set the challenge to reach the target of 6,000 points on the WaterSocial platform. The number of points generated by all 44 pupils was 6,459 through the sharing of 75 photos and 13 water saving tips.

The pupils particularly enjoyed using the See and Share map to view images and tips. The map provided the opportunity for the students to analyse which water images provoked them to consider water conservation and to discuss which water saving tips they would like to incorporate into their daily water habits. Pupils commented that the task to compete against friends motivated them to participate, and to visit watesocial.org to compare what their friends had shared.

Tertiary

To gauge university student's interest in the platform, students were invited to browse watersocial.org during the open day at Silesia University. Around 50 students visited the platform and 5 photos were uploaded onto the WaterSocial See and Share map.

A competition to promote WaterSocial to university students was conducted on Twitter, Facebook, and Instagram. The aim was to bring WaterSocial competitions to platforms that students and young people already use daily. The objective was to indirectly promote watersocial.org. Prizes were used to motivate participation. The competition was promoted offline via a stand at the university market. Students took a notable interest in the competition once they discovered that there were prizes to be won. As a result of the stand, a total of 44 photos were shared to WaterSocial by 18 participants via Twitter, Facebook and Instagram. The competition did not result in a notable change in the number of visits to the platform.

3.2 PUBLICATIONS

3.2.1 Consortium newsletter

News bulletins were distributed three times a week to the growing number of WaterSocial members and to 20 project coordinator members within the consortium. These project coordinators could have up to 40 members they could have further distributed this information to. All news bulletins contained at least one hyperlink to the WaterSocial platform. It is estimated that at least 300 emails were distributed to members within the consortium. The most notable impact of the emails was that one user would regularly participate in the weekly water quiz on the platform. This user answered a total of 5 water social quizzes.

3.2.2 Newsletters and blogs

It was not possible to measure the number of website referrals that occurred as a result of the newsletter. Though, the Waterwise newsletter was distributed to 1,667 recipients. Almost all of these recipients work within the field of water, either in the UK or Europe.

As a result of the Blueprint for Water blog it is estimated that 4 users were referred to the platform and spent an average 3 minutes on the platform. The audience of this blog is predominately water stakeholders.

Publication activities were designed as a pull mechanism to draw water stakeholder users to the platform, as a result of appearing as experts in the field. There was a small amount of engagement in this content that resulted in new users to the platform.

3.3 SOCIAL MEDIA

Social media platforms, such as Twitter, were used to share similar content that can be found on the WaterSocial platform and to direct users to watersocial.org. As a result of social media activity the WaterSocial follower base increased to 3,255 followers across Twitter, Instagram, and Facebook. Twitter observed a steady and fast increasing follower base, Facebook observed a sharp increase in followers when

Facebook paid advertising was arranged, and Instagram follower numbers grew slow but steadily (figure 5).

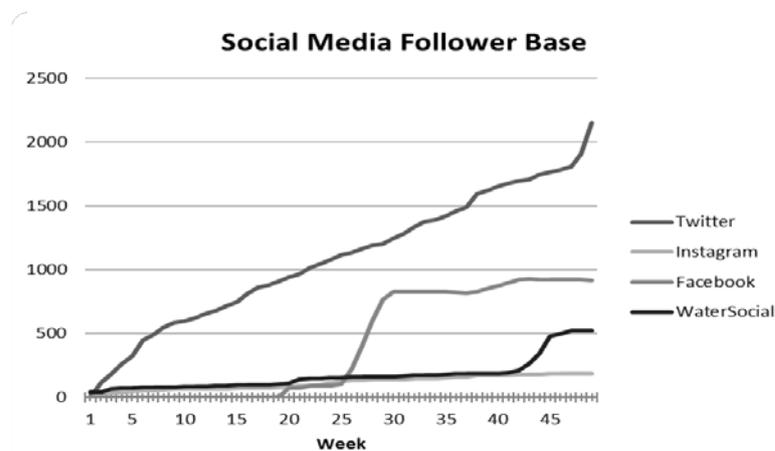


Fig.5: Social media follower growth

Twitter, Facebook and Instagram were used differently to promote WaterSocial, in order to reflect the style and use of each platform. This included a variation on the frequency of posts, For example, between 2 – 5 tweets would be posted daily on Twitter, whereas Facebook would be a maximum of 2. This was because too much content on Facebook would lead to users 'unliking' the WaterSocial profile.

Engagement rate between the social media platforms varied, Table 2. The highest engagement rate was observed on Instagram, though this was the profile with the least amount of followers and content was posted less frequently than on Twitter and Facebook.

To better understand the effectiveness of each platform at generating new users to the WaterSocial platform, the referral rate to watersocial.org was used to compare them. Table 3 shows that Twitter activity produced 80% of referral visits to the platform. This is a total of 1,073 visits to the platform in 2016.

Platform	Followers	Posts	Average engagement rate
Twitter	2,149	745	2.9%
Facebook	919	279	0.5%
Instagram	187	126	7%
Total	-	1,150	-

Table.2: Social media engagement rate

Platform	Visits	% of referral
Twitter	1,073	80%
Facebook	209	16%
Instagram	9	1%
YouTube	1	>1%
Total	1,292	-

Table.3: Social media referral rate

3.3.1 Web link

The link was added on 24th February 2016. It was estimated, using web analytics, that 4 new users accessed the WaterSocial platform via the Rain Catcher Ltd website. These users spent approximately 1 minute on the platform and visited an average of 3 pages. Though this activity resulted in new visitors, it did not produce a continuous stream.

3.3.2 Instagram

The average weekly growth rate of Instagram followers from February 15th 2016 to January 1st 2017 was 3.8%. This was an average of 4 new followers a week. The average engagement per Instagram post was 7%. Profile engagement was calculated as the sum of all likes and comments divided by the number of followers during the selected time frame. The pattern of engagement is demonstrated in figure 6. Peaks in engagement can be seen in May, when the first social media competition was run, and at the end of July and October, when other competition were run on Instagram. It is observed that engagement is low unless there is a live competition.

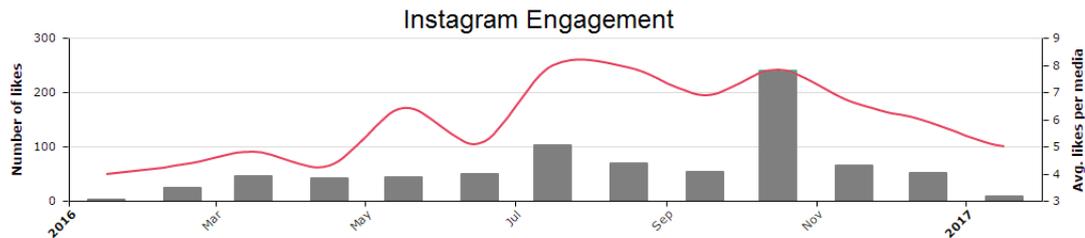


Fig.6: Instagram Engagement

3.3.3 Twitter

Competitions were trialled on Twitter. As a pull mechanism, competitions would invite users to carry out tasks that can be done on watersocial.org, for example, sharing a photo of water. After a user had entered a competition they would receive an automated message notifying them that if they logged onto watersocial.org they could redeem the points for sharing a photo on Twitter.

Awareness and engagement of WaterSocial on Twitter grew by an accumulative rate of 7.5% a week over a 12-month period. On average the WaterSocial Twitter profile gained around 44 new followers a week. These figures are illustrated by the accumulative follower base in figure 5 above.

During 2016, WaterSocial earned an average of 842 impressions per day. This is estimated at over 5.9 thousand impressions a week. Tweet impressions are the number of times a tweet has been delivered to Twitter streams.

The online exposure of WaterSocial on Twitter is the total number of times tweets about WaterSocial were delivered to Twitter streams, or the number of overall potential impressions generated. The total exposure of WaterSocial was over 300,000 impressions, figure 7.

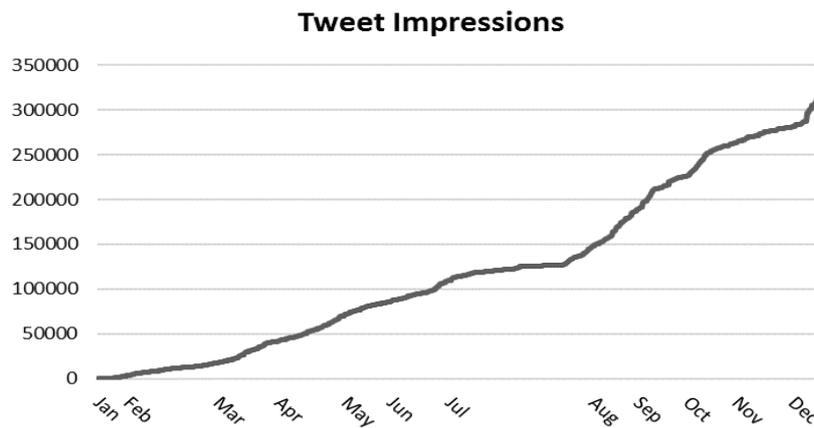


Fig. 7 Total Twitter Impressions

The pattern of impressions can be observed in figure 8. In March there was the first peak, which was as a result of the first pilot study, which saw 24 users create frequent content on watersocial.org that automatically generated linked tweets on Twitter. The next peak can be observed at the beginning of May, which was caused by the first competition that was launched on watersocial.org and Twitter. The start of the second pilot study created another growth of exposure at the end of June. Spikes in impressions can also be seen in August, September, and October, when competitions were run.

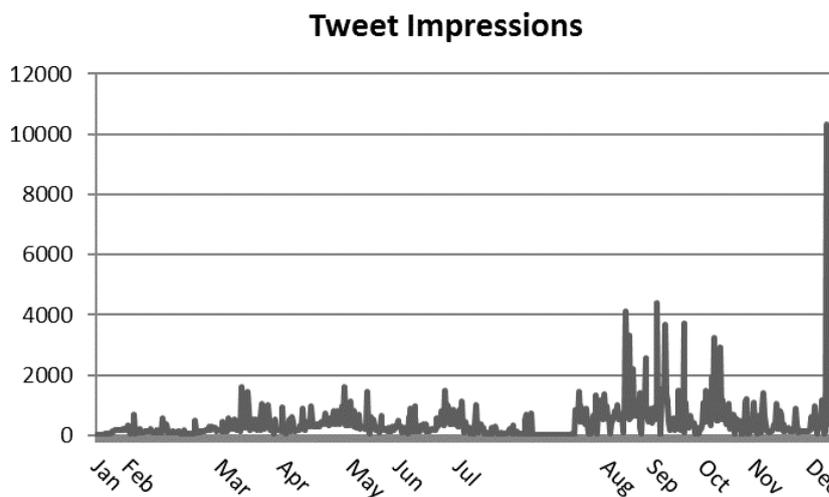


Fig. 8 Daily Twitter Impressions

The last competition that was run in 2016 saw the largest exposure on Twitter. This was due to trialling a new type of competition: instead of users sharing a photo of water, users entered by retweeting the competition tweet and following the sponsor's Twitter account. It could be implied that due to the ease of entering the competition it allowed for a larger number of users to engage with WaterSocial. Though, this type of competition lacked characteristics of watersocial.org.

Over the course of 2016 over 1,000 user sessions on Watersocial.org were referred from Twitter (figure 9). These users spent an average of 8 minutes browsing the platform.

Network referral sessions from Twitter

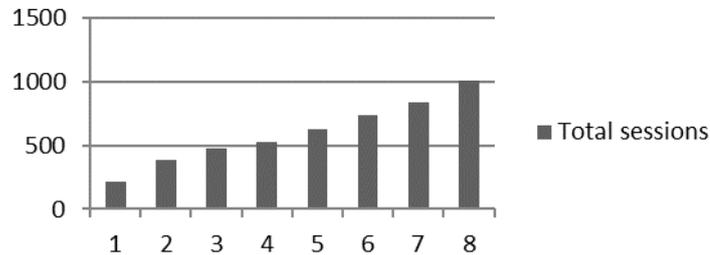


Fig. 9: Network referral sessions from Twitter

3.4 Overall user demographic

The highest demographic for all users was 25-34 year olds. There were more female users (60%) than male users (40%) figure 10. Just over half (52%) of users returned to visit the WaterSocial platform figure 11.

Sessions

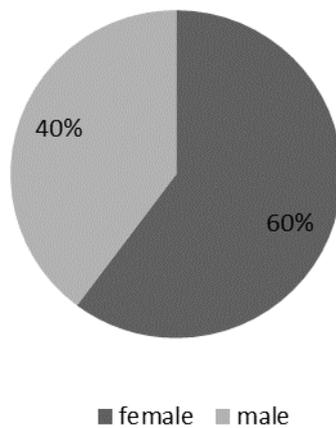


Fig. 10: Sessions by gender

WaterSocial visitors

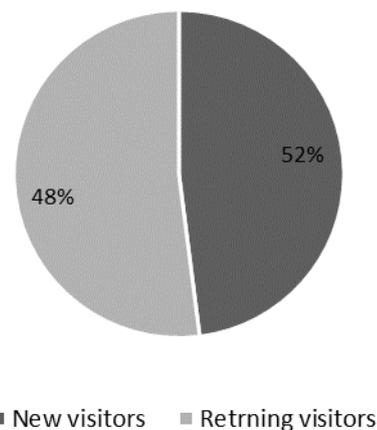


Fig. 11: New and returning visitors

Of the 2,822 new users to the platform, the highest new user demographic was 65+ (63%) figure 12, with a balance of 50% for female and male new users. The most active age group of all sessions was 25-34, figure 13. This age demographic reflects the typical demographic observed on other social media platforms. For example, 90% of Instagram users are under the age of 35. Age 25-34 is the most common age group on Facebook. Over half of all Twitter users are under the age of 49 and 32% of Twitter users are 29 or younger. Therefore,

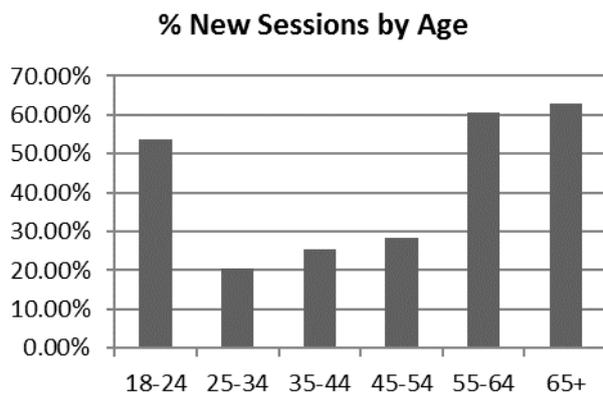


Fig. 12: New User Sessions by Age

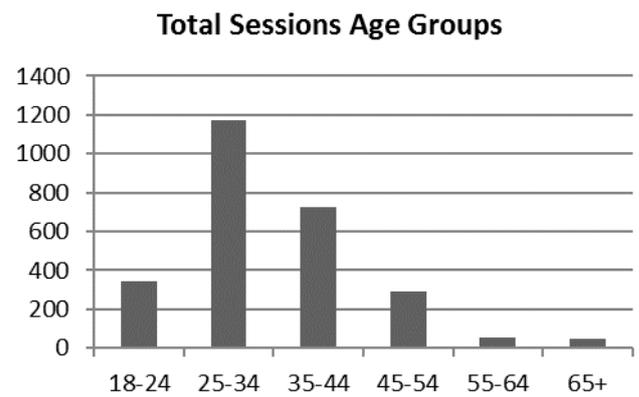


Fig. 13: Total Sessions by Age

The country with the highest users was the UK, figure 14. As the work package leaders, a higher number of dissemination activities were carried out in the UK. In third and fifth places are Poland and Greece, where fellow work package partners also carried out dissemination activities. Visitors from other countries can be attributed to online dissemination through blogs, newsletters, and social media.

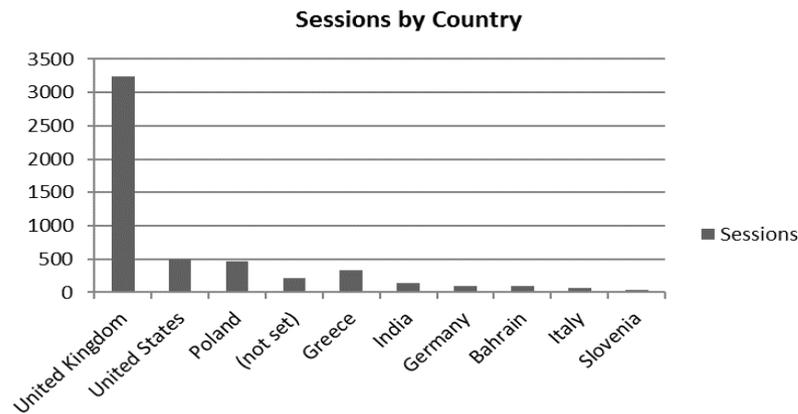


Fig. 14: Sessions by Country

Over 4,000 users visited the platform and contributed almost 6,000 user sessions in 2016 (figure 15).

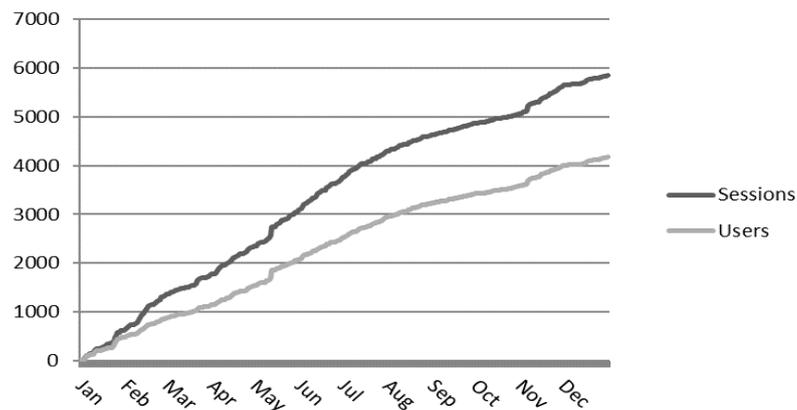


Fig. 15: Accumulative No. of Users and Sessions

3.5 Overall user referral

The inputs were all carried out from 1st January 2016 to 1st January 2017. In this time period strategies collectively resulted in 522 registered members accessing the platform, which had an average of around 4.5 pages per session. There was total of 5846 visitors to the platform, generating a total of 2,851 user sessions, amounting to a total of 26,809 pages viewed. The average time spent browsing the WaterSocial platform was just over 7 minutes. 1,337 sessions on the WaterSocial platform were referrals from external social media platforms. 80% (1,037) of referral visits to the platform were referred via Twitter. Twitter also accounts for 22% of all user visits, which is the largest amount from one input.

Of all the WaterSocial platform activity 48% were new user sessions. It is apparent that Twitter provided a steady increasing flow of interest, both on Twitter and by referring users to visit the WaterSocial platform. It has been noted that tweets that resulted in higher than average levels of engagement were posts using photos or images. Tweets that included an image that contained information on saving water was more likely to be retweeted, thereby increasing the tweet impressions for that post.

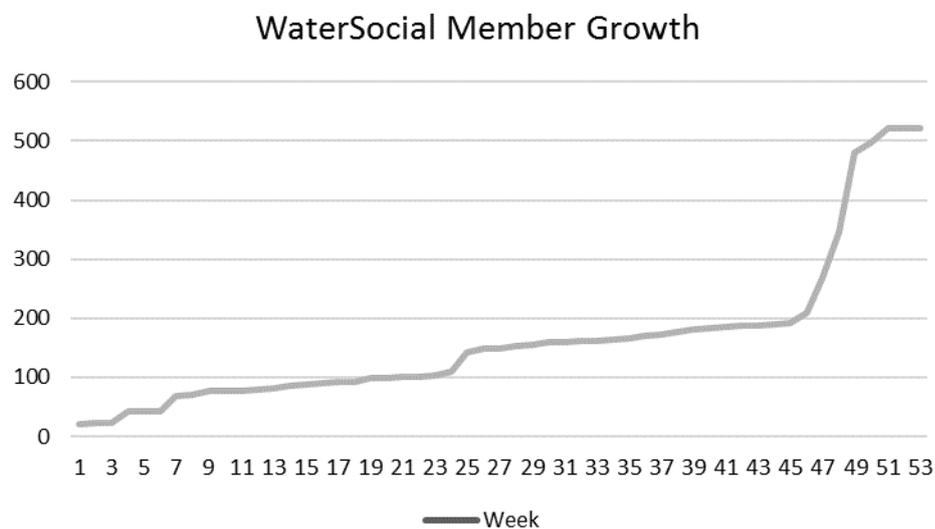


Fig. 16: WaterSocial Member Growth

The pattern of sessions on the platform can be seen in figure 17. This graph illustrates a similar pattern to the pattern of Twitter impressions and Instagram engagement. This indicates that online competitions on external social media platforms resulted in an increase of user visits to the WaterSocial platform.

Sessions 2016

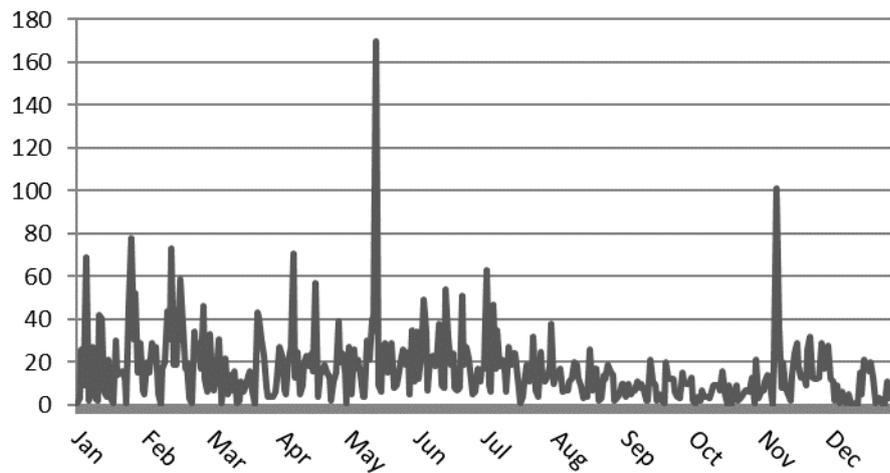


Fig. 17: Daily WaterSocial Sessions

3.6 WaterSocial content generation

To evaluate the outcome of the holistic approach to disseminate the WaterSocial platform the amount of generated content was assessed. Data from the three main tasks recorded. During this time period 24 users uploaded 76 photos. A total of 38 water saving tips were shared by 15 members. Altogether 34 users entered water use data a total of 375 times into the Water Diary. When compared to the number of user sessions and the amount of content generated, the vast majority of visitors were content consumers. The large majority did not generate content. Content generation was caused by competitions as part of the two pilot studies, offline push marketing with students, and through competitions on social media platforms, such as Twitter, Facebook, and Instagram.

3.7 Closing the loop

Observing web analytics it was noted that the WaterSocial platform experienced slight peaks in content being generated during the pilot studies. In order to generate a higher amount of user content users it became clear that a pull mechanism would be necessary to attract users to the platform. Pull mechanisms are typically an online method of producing relevant content that directs users to your desired platform. To determine which channel to focus on analytics were applied. Twitter was discovered to produce the most user referral sessions on watersocial.org than any other channel (Table 4). Therefore, the strategy to direct potential new users to the platform was focused on Twitter activity.

Through the use of competitions run on external social media platforms, such as Twitter, it was possible to engage a larger number of users in the WaterSocial gamification concept. Competitions run on Twitter received the highest amount of content generation. This content was being shared externally from watersocial.org.

The See and Share world map on the WaterSocial platform had two layers, 1) photos of water and 2) water saving tips. Through harnessing the pull mechanism on Twitter to increase engagement with the WaterSocial 'brand', a third layer was created: Twitter photo competition contributions. These images of water were pulled and pinned to the See and Share map,

using the competition hashtag, thereby closing the loop of engagement and content generation.

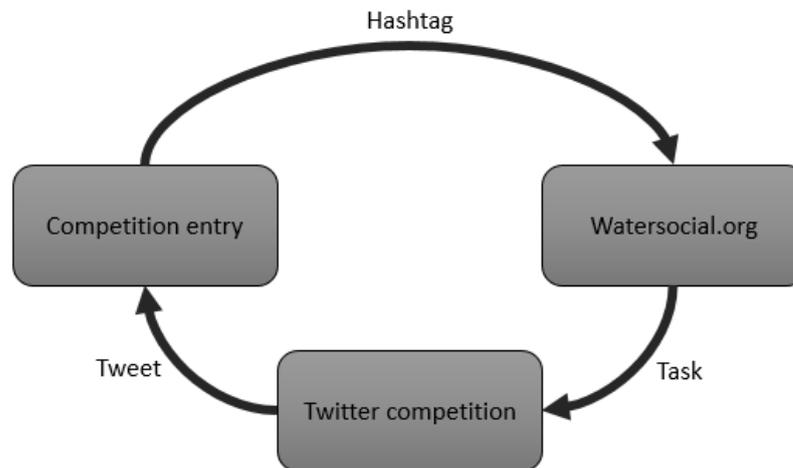


Fig. 18 Closing the loop

4. Wrap-up

The dissemination strategy was effective in obtaining a wide online reach of the WaterSocial message. WaterSocial has a total of 3,254 followers across Twitter (2,148), Facebook (919) and Instagram (187). As a result, over 4,000 users visited the platform, of which 13% were registered to the WaterSocial platform (522 users). Of these users 20% chose to contribute a total of 241 photos and water saving tips have been shared to social media and watersocial.org. It was observed that the highest engagement resulted from 'pulling' users from existing social media platforms, such as Twitter. Subsequently, the final strategy was to implement a feature that would allow WaterSocial to engage with users on the external platforms but collect the content generated, water photos, on to the See and Share map on the platform. Thereby, enabling new user content to be produced on the platform.

More research needs to be carried out to investigate successful methods of motivating users to contribute to a gamified, water conservation, social media platform.

According to the D7.1, the validation of the Watersocial platform is a continuous process. This will ensure that the platform is running without interruption or issues. Future validation is planned quarterly. This report reveals the results of key performance indicators gathered in the three time intervals.

5. The results of the validation of the social-media platform

First Quarter Results (WP5 KPIs)

Key Performance Indicators	The description of KPI measurement	Status	Description
KPI_H1_WP5_1	Total topics created within a period a time.	Well Monitored	145 topics created between '2016-02-01' and '2016-06-30'
KPI_H1_WP5_2	Total replies to topics within a period of time.	Ditto	13 replies created between '2016-02-01' and '2016-06-30'
KPI_H1_WP5_3	Total number of water body photos and water related tips or information shared within a period of time.	Ditto	99 photos and 75 tips shared between '2016-02-01' and '2016-06-30'
KPI_H1_WP5_4	Total number of tweets disseminated on the watersocial.org website and produced from twitter users within a period of time.	Ditto	145 twitters disseminated from watersocial between '2016-02-01' and '2016-06-30' 23 of them were produced from twitter users (i.e. ones logged in watersocial using twitter account).
KPI_H2_WP5_1	Total new friendships made by members within a period of time	Ditto	127 friendships made between '2016-02-01' and '2016-06-30'
KPI_H2_WP5_2	Total new users within a period of time	Ditto	102 new users registered to watersocial between '2016-02-01' and '2016-06-30'
KPI_H2_WP5_3	Total number of likes on topics, questions, replies and answers	Ditto	Total 47 likes between '2016-02-01' and '2016-06-30' 40 likes on topics and replies between '2016-02-01' and '2016-06-30' 7 likes on questions and answers between '2016-02-01' and '2016-06-30'
KPI_U2_WP5_1	Number of publications including both published and publication in progress involved the social media platform.	Well Monitored	Total 342 tweets on Twitter between '2016-02-01' and '2016-06-30'

			2 newsletters on WaterWise 1 newsletter on ech2o 1 newsletter on Blueprint for Water 1 newsletter on ISSEWATUS
--	--	--	---

Second Quarter Results (WP5 KPIs)

Key Performance Indicators	The description of KPI measurement	Status	Description
KPI_H1_WP5_1	Total topics created within a period a time.	Well Monitored	19 topics created between '2016-07-01' and '2016-09-26'
KPI_H1_WP5_2	Total replies to topics within a period of time.	Ditto	0 replies created between '2016-07-01' and '2016-09-26'
KPI_H1_WP5_3	Total number of water body photos and water related tips or information shared within a period of time.	Ditto	6 photos and 5 tips shared between '2016-07-01' and '2016-09-26'
KPI_H1_WP5_4	Total number of tweets disseminated on the WaterSocial.org website and produced from twitter users within a period of time.	Ditto	19 tweets disseminated from WaterSocial between '2016-07-01' and '2016-09-26' 6 of them were produced from twitter users (i.e. ones logged in WaterSocial using twitter account).
KPI_H2_WP5_1	Total new friendships made by members within a period of time	Ditto	2 friendships made between '2016-07-01' and '2016-09-26'
KPI_H2_WP5_2	Total new users within a period of time	Ditto	33 new users registered to WaterSocial between '2016-07-01' and '2016-09-26'
KPI_H2_WP5_3	Total number of likes on topics, questions, replies and answers	Ditto	Total 4 likes between '2016-07-01' and '2016-09-26' 3 likes on topics and replies between '2016-07-01' and '2016-09-26' 0 likes on questions and answers between '2016-07-

			01' and '2016-09-26'
KPI_U2_WP5_1	Number of publications including both published and publication in progress involved the social media platform.	Well Monitored	Total 240 tweets on Twitter between '2016-07-01' and '2016-09-26' 1 newsletter on WaterWise 1 newsletter on ISSEWATUS

Third Quarter Results (WP5 KPIs)

Key Performance Indicators	The description of KPI measurement	Status	Description
KPI_H1_WP5_1	Total topics created within a period a time.	Well Monitored	212 topics created between '2016-09-27' and '2017-1-31'
KPI_H1_WP5_2	Total replies to topics within a period of time.	Ditto	0 replies created between '2016-09-27' and '2017-01-31'
KPI_H1_WP5_3	Total number of water body photos and water related tips or information shared within a period of time.	Ditto	86 photos and 24 tips shared between '2016-09-27' and '2017-01-31'
KPI_H1_WP5_4	Total number of tweets disseminated on the WaterSocial.org website and produced from twitter users within a period of time.	Ditto	45 tweets disseminated from WaterSocial between '2016-09-27' and '2017-01-31'
KPI_H2_WP5_1	Total new friendships made by members within a period of time	Ditto	0 friendships made between '2016-09-27' and '2017-01-31'
KPI_H2_WP5_2	Total new users within a period of time	Ditto	396 new users registered to WaterSocial between '2016-09-27' and '2017-01-31'
KPI_H2_WP5_3	Total number of likes on topics, questions, replies and answers	Ditto	Total 0 likes between '2016-09-27' and '2017-01-31' 0 likes on topics and replies between '2016-09-27' and '2017-01-31' 0 likes on questions and answers between '2016-09-27' and '2017-01-31'
KPI_H3_WP5_1	The overall water use reduction for water diary	Not implemented	Lacking of interfaces from WP3 to read and collect

	users during water use peak time of a day from WP3		water use data
KPI_U2_WP5_1	Number of publications including both published and publication in progress involved the social media platform.	Well Monitored	<p>Total 202 tweets on Twitter between '2016-09-27' and '2017-01-31'</p> <p>Total 98 posts on Instagram between '2016-09-27' and '2017-01-31'</p> <p>Total 112 posts on Facebook between '2016-09-27' and '2017-01-31'</p>

Acknowledgements

This work has been undertaken within the framework of the ISS-EWATUS, Integrated Support System for Efficient Water Usage and Resources Management, FP7 project (grant no. 619228), funded by the European Community.