



PROJECT:
SIDERWIN

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D8.2.1

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Master Dissemination and Communication Plan and Updates

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D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

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Final

In Progress. Please explain: Iterative Process – This year’s results have been 100% achieved.

Delay – This year’s results were not fully achieved.

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Public

Author(s)

	Partner name	Name of the author
Main Author	TECNALIA	MONICA SERNA RUIZ

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Executive summary

This document is a deliverable of WP8 of the European Commission funded project SIDERWIN (Grant Agreement no. 768788, under the H2020 framework and the SPIRE initiative) and presents the second release of deliverable D8.2 “Master Dissemination and Communication Plan and Updates”.

The deliverable D.8.2.1 includes an overview of the dissemination activities carried out during the first 18 months of the project life and the action plan for the next reporting period. It is associated with Task 8.1 Communication and dissemination actions, and it is under the responsibility of TECNALIA.

The deliverable aims at describing the update of the Dissemination and Communication Plan of SIDERWIN project. The plan will serve to disseminate and outreach the project results. The dissemination activities are mostly focused on the description of the project’s goals, the explanation of how it is planned to attain them, the forecast results and expected benefits.

The proper dissemination and communication are keys in order to ensure the maximum impact of the SIDERWIN project. The main goal of the planned dissemination activities is to increase the visibility of SIDERWIN on selected communities and target groups, at both European and International level, to promote the implementation and use of the project results (exploitation), always considering confidentiality and IPR protection aspects. All partners of the consortium will contribute to the SIDERWIN dissemination, according to their foreseen role and effort, and using all available tools and channels.

This deliverable outlines the SIDERWIN dissemination strategy in terms of identification and description of the dissemination key elements:

- the objectives of the dissemination (why, mission & vision)
- the subjects of the dissemination (what will be disseminated)
- the target audience (to whom it will be disseminated)
- the timing (when the dissemination will take place)
- the dissemination tools and channels (how to reach the target audience)
- the responsible for the dissemination (who will perform the dissemination)
- the rules for performing the dissemination activities
- the way to evaluate and assess the impact of the dissemination activities

It must be underlined that, this deliverable is based on the first release of D8.2 (M6), that has been updated to cover the activities carried out during the first 18 months of the project. This deliverable will also be updated in M36 and M48. Therefore, the action framed in this plan is a dynamic one, which requires a continuous supervision carried out by the Dissemination and Exploitation Work package leader.

1 Introduction

European Union countries have agreed on a 2030 Framework for climate and energy, including EU-wide targets and policy objectives for the period between 2020 and 2030. These targets aim to help the EU achieve a more competitive, secure and sustainable energy system and to meet its long-term 2050 greenhouse gas (GHG) reductions target [1].

The targets established for 2030 are:

- a 40% cut in GHG emissions compared to 1990 levels
- at least a 27% share of renewable energy consumption
- at least 27% energy savings compared with the business-as-usual scenario

Nowadays, there are no economically feasible steelmaking technologies available having the potential to meet the EU's climate and energy targets for 2030. At best, a 15% decrease in the overall CO₂ intensity of the sector could be achieved throughout the widespread dissemination of technologies that could reasonably become cost-effective in the future. Therefore, breakthrough technologies are urgent and indispensable.

With this in mind, SIDERWIN project proposes to develop a breakthrough innovation compared to the actual steel production process bringing together steel making with electrochemical process. The electrolysis process using renewable energies will transform any iron oxide, including those inside the by-products from other metallurgies, into steel plates with a significant reduction of energy use. This process decomposes under mild conditions but at intense reaction rate naturally occurring iron oxides, such as hematite, into iron metal and oxygen gas. By offering a low CO₂ emissions steel production process, the project will contribute to the reduction of the total greenhouse gas (GHG) emissions.

The technology developed within the framework of SIDERWIN project can provide *environmental benefits* to reach the targets established by the EU, compared to traditional steelmaking plants, such as:

- a reduction by 87% of the direct CO₂ emissions
- a reduction by 31% of the direct energy use
- the ability to produce steel from by-products rich in iron oxides from non-ferrous metallurgy residues
- an increased integration with renewable energies with a more flexible process
- oxygen as by-product

SIDERWIN project is focused on:

- the development of an electrochemical processing route for primary steel production
- an industrially feasible new processing route
- an iron metal production from renewable energy
- raw material efficiency during steel production
- close to market research

Dissemination and communication of project results (both within and beyond the project's own community) are key activities in order to ensure the maximum impact of the SIDERWIN project and facilitate the exploitation activities.

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This document is organised in the following sections:

- Section 1: introduces the main goals and features of the project
- Section 2: contains the information about the scope and objectives of this deliverable
- Section 3: presents the Dissemination and Communication Plan, illustrating the objectives of the dissemination and the main elements of the dissemination strategy (subject, timing, target audience, tools and channels and the dissemination management policy)
- Section 4: presents the activities carried out during the first 18 months of the project (M1 – M18)
- Section 5: presents the activities planned for next reporting period (M19 – M36)
- Section 6: presents the conclusions of the document
- Annex I: presents the Technological Platforms and Associations with involvement of SIDERWIN partners
- Annex II: presents the Dissemination reports templates
- Annex III: presents the initial SIDERWIN flyer
- Annex IV: presents some screenshots of first SIDERWIN animation video

2 Scope and objectives of this deliverable

This document is the deliverable D8.2.1 of WP8 of the SIDERWIN project and it is associated to Task 8.1. Communication and Dissemination actions. The scope of this document is to present the second release of the dissemination and communication plan for the SIDERWIN project, including the activities carried out during the first 18 months of the project, the formulation of the SIDERWIN dissemination strategy and the action plan focused on the next 18 months of the project (M19 – M36).

A new release of the deliverable (D8.2.2) shall be elaborated and published at M36, including a detailed report of the dissemination and communication activities performed during preceding 18 months and the action plan for the next reporting period. If needed, it will also be included an update of the dissemination strategy in accordance with the findings gained during the preceding months of the project.

Finally, at the end of the project (M60), a survey of the dissemination and communication activities carried out along the whole project lifetime will be elaborated and published (deliverable D8.6 “Dissemination and communication actions survey”).

This plan represents the strategic vision of the Consortium in terms of the dissemination of the SIDERWIN project itself and of its achievements and outputs as well. The main objective of the planned dissemination activities is to increase the visibility of SIDERWIN on selected communities and target groups, at both European and International level, in order to ensure the maximum impact of the project and to promote the exploitation of the project results.

This deliverable outlines the SIDERWIN dissemination strategy in terms of identification and description of the dissemination key elements:

- the objectives of the dissemination (mission, vision)
- the subjects of the dissemination (what will be disseminated)
- the timing of the dissemination (when dissemination will take place)
- the target audience (to whom it will be disseminated)
- the dissemination tools and channels (how it will be disseminated)
- the responsible for the dissemination (who will perform the dissemination)
- the rules for performing the dissemination activities
- the way to evaluate and assess the impact of the dissemination activities

It also includes a description of the actions carried out during the first 18 months of the project (M1 – M18) and the activities planned for the next 18 months.

3 Dissemination and Communication Plan

3.1 Dissemination goal and strategy

The final goal of the dissemination and communication activities is to promote the SIDERWIN project and spread the SIDERWIN's results to the largest possible concerned audience (at the national, European and international level) in order to encourage the implementation and use of the project results (exploitation), always taking into account the confidentiality and IPR protection aspects.

In more detail, the objectives of the dissemination are:

- to raise public awareness about the project, its expected results and progress within defined target groups,
- to disseminate the fundamental knowledge, the methodologies and technologies developed during the project,
- to exchange experience with projects and groups working in the field, in order to join efforts, minimize duplication and maximize potential,
- to pave the way for a successful (commercial and non-commercial) exploitation of the project outcomes.

The objective of the dissemination strategy is to identify and organise properly the activities needed to achieve these objectives. The following sections describe the main pillars of the dissemination strategy: (i) subjects (what will be disseminated), (ii) target audience (who will most benefit from the project results and who would be interested in learning about the project findings), (iii) the timing (when dissemination will take place); (iv) tools and channels (how to reach the target audience) and (v) dissemination management and policy.

3.2 Subject of Dissemination

The following general subjects of dissemination have been identified up to now:

- SIDERWIN project itself: goals, approach, pilot plant and expected benefits.
- The techniques and methodologies used for the technical development of the project in all the involved areas (simulation, modelling, monitoring, control, automation, optimization...).
- The sustainability indicators and Key Performance Indicators in the process industry.

3.3 Timing of Dissemination

Dissemination activities are planned in accordance with the stage of development in the project. Although a number of dissemination actions took place during the first 18 months of the project and they will continue during the next months, the most significant dissemination activities will take place as final research results were available. It is also important to take into account that plant owners' investment decision might require extensive time, so timely communication on the project results will ease the successful commercialisation of the results.

The dissemination follows the **AIDA** principle: **A**wareness to attract the attention of the target audience, **I**nterest of the target audience, **D**esire of the target audience to know more about the

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project and **Action** to lead the target audience towards get involved in the project and to promote its results to facilitate their exploitation. According to this principle, three phases are considered:

- Initial phase (**Awareness**) (month 1 – month 12): focused on increasing the visibility of the project and mobilising stakeholders and multipliers. At this phase, the main activities were related to the implementation of the dissemination tools (website, social networks, visual identity), preparation of dissemination material, general presentations of the SIDERWIN project and launching of the SIDERWIN Special Interest Group.
- Intermediate phase (**Interest/Desire**) (month 13 – month 36): focused on informing and engaging to the target stakeholders when preliminary results become available. At this phase, the project results and their future applications will be presented in journals and conferences to specialized audience with the objective of stimulating the interaction with the concerned scientific and industrial community and determining the stakeholders' expectations.
- Final phase (**Action**) (month 37 – month 60): focused on encouraging further exploitation of the SIDERWIN outcomes (transfer to other industries, replicability...). At this phase, the results of the validation of the SIDERWIN approach at the pilot plant and the transferability analysis will be presented in journals, conferences and industrial events. One of the main dissemination actions at this phase will be the organization of the SIDERWIN workshop at the end of the project, as it is explained later.

3.4 Target audience

Taking into account the goal of the SIDERWIN project, the target audience for the dissemination activities has been divided in the following groups:

1. *Industrial Community*: raise awareness of and interest in the project results to promote the exploitation and co-operation opportunities.

SIDERWIN project addresses specifically the steel sector and the aluminium sector as providers of raw material within the circular economy approach, but other industrial sectors could also use the new technologies developed in the project to reduce the carbon emissions and residues and increase their competitiveness.

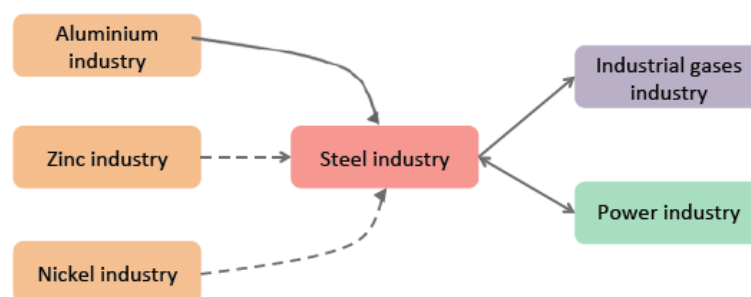


Figure 1 Synergies between the steel industry and other European industries thanks to SIDERWIN technology

The project will disseminate the results to business stakeholders to make them aware of the expected impact of the project and promote the exploitation of its results. So, from the exploitation side, the target audiences from the industrial community will be:

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- a. Steel industry: European Union is the second largest producer of steel in the world after China. Its output is over 177 million tonnes of steel a year, accounting for a 11% of global output [3]
- b. Aluminium industry: The aluminium industry’s presence spans across Europe, with a total of more than 600 plants in all 27 EU Member States, including alumina, metal supply (primary and recycling) and semis production (i.e. extrusion presses, rolling mills) [4]
- c. Other metallurgies where iron oxides are produced as by-products of their processes
- d. Mining industry and particularly iron ore industry
- e. Electricity producers from renewable energy sources
- f. Oxygen gas producers

The message for this audience would be:

“Increased economic competitiveness and reduced environmental impact due to a breakthrough production process by applying electrochemical method to steelmaking, reducing CO₂ emissions and direct use of energy. This will allow producing steel from by-products rich in iron oxides from non-ferrous metallurgy residues such as the aluminium industry allowing further processing of these by-products and increase the integration with renewable energies by flexible and interruptible operation.”

2. *Scientific Community* (universities and research centres): enlarge the knowledge and facilitate the communication among European researchers in the research field of the SIDERWIN project (industrial process modelling, control and optimization, alternative raw material, techno-economic and environmental assessment).
3. *Financial Community*: financial instruments are a key point for investments in low carbon technologies. The project will disseminate the results to existing Public-Private Financial and Insurance schemes available for Energy Intensive Industries (i.e. Public funds, Private Equity Funds, Mezzanine) with the aim to promote the direct investments by innovative financial-insurance schemes.
4. *Policy makers*: raise awareness of the relevance and economic impact of exploited research results obtained by EU-funding (the European Commission’s DG develops policies and actions for the re-industrialisation of Europe and an innovative, modern and sustainable economy). Dissemination among national and European decision-makers is to encourage them to develop/support policies that promote the development and implantation of low carbon technologies as the technologies developed in SIDERWIN.
5. *“Internal” Community (SIDERWIN partners)*: Ensuring effective internal communication and dissemination among the consortium partners is a key element for the development of the project and also because some of the partners represent “influencers” due to their great position on the associated industrial sectors. Particularly, SIDERWIN consortium partners comprise important market players in various segments and this constitutes a natural channel for the dissemination of the project and its results to other potential users. Therefore, it is important to communicate information about the project and its results to partners’ managers, consultants and people responsible for their marketing and sales and to encourage them to share this information further to their customers and business partners.

6. *General public*: the goal is that the audience can be aware of the general impacts of the project for the society in general (i.e. sustainability, environmental impact) and let them aware of the positive impacts generated and the relevance of the EU funded research industry. In order to disseminate the sustainability assessment of the investigated technology and scenarios, QUANTIS will develop and maintain a user-friendly web-based footprinter, based on the results of WP7. Footprinters are easy-to-visualise, user-friendly and robust web-tools of high scientific quality allowing users to better understand the materiality of environmental impacts and/or compare products and technologies (e.g. SIDERWIN vs. baseline) based on scenarios. In order to make the results more accessible to the large public, benchmarks will be developed to express the potential gains per indicator with respect to the selected baseline. QUANTIS has developed several of these tools and examples are provided below:

- <http://lifenet.bayer.fr/#>
- <http://footprinters.ch/test-rivages/>
- <http://footprinters.ch/test-usdairy/carbon/>
- <https://www.morningstarfarms.com/just-what-the-world-ordered/what-we-do.html#calculator>
- <https://www.nescafe.com/the-future-of-coffee>, <http://footprinters.ch/test-st/mems/>.

Dissemination activities must be tailored in such a way to reach the audiences most efficiently through appropriately selected dissemination tools and channels.

3.5 Dissemination tools and channels

This section describes the main tools and channels that are being implemented/used by the SIDERWIN partners for the dissemination of the project and its results. Some of the tools are of general purpose, while other ones are oriented to specific target groups.

3.5.1 SIDERWIN Website

The SIDERWIN website (<https://www.siderwin-spire.eu>) is the main interface for communication to the public. It contains information on the SIDERWIN objectives, the consortium, the proposed activities and the foreseen/achieved results. It also allows having access to the dissemination material and to facilitate the interaction between partners and interested parties by means of the contact formulary. In order to maximize its visibility, free or affordable methods to increase page ranking on search engines are being used. When possible, links from the homepages of all the partners will also be established to the SIDERWIN site.

3.5.2 Social networks

In order to reach a broad target audience while establishing two-ways communication channels, the presence of the SIDERWIN project in social media will be encouraged. A Twitter account (https://twitter.com/siderwin_spire) is being used as an instant dissemination instrument for reaching the general public. In order to reflect the relation of the project with the SPIRE community, references to @Spire2030 in the SIDERWIN tweets is being included whenever possible. On the other hand, a LinkedIn (<https://www.linkedin.com/in/siderwin-spire->

[15b185154/](#)) page is being used for reaching stakeholders and industry professionals. Official LinkedIn groups will be joined to raise awareness among Process Industry professionals.

The website has direct access to these social networks by clicking over the icons situated on a visible part of the website. In this way, it is easy for every user to participate in these social networks when the website is visited.

Finally, YouTube is being used for the publication of videos produced within the course of the project, provided that this does not imply any property right conflict.

3.5.3 Visual Identity and dissemination material

The visual identity (logo and style) of the project helps external audience to easily identify SIDERWIN and contribute to the project visibility by providing a clear identity from the very beginning of the project. Communication and dissemination tools (such as project website, Twitter, LinkedIn page,...), dissemination material (such as flyers, presentations, posters,...) and deliverables apply the visual identity defined for the project.

Different dissemination material is being produced along the project lifetime, such as:

- Project flyers (hardcopy and electronic version) in order to provide our audiences with an attractive and written project overview and summary of the main project objectives and results. Two flyers were scheduled in the project: one at the beginning of the project focused on the project's objectives and vision (<https://www.siderwin-spire.eu/sites/template.drupal.pulsartecnalialia.com/files/documents/flyer-siderwin%20FINAL.pdf>) and another one a few months before the end of the project highlighting the key results of the pilot plant. The flyers will be able to be distributed in printed form (handed out at conferences or other events) or in electronic version (PDF file). The flyers will also be available for download through the project website.
- Short Project presentations (electronic version) describing the objectives and the main achieved results for presenting the project in different forums, such as internal presentations inside of the partners, presentations at schools/universities, visits with clients, etc. These presentations will be available for download through the website (https://www.siderwin-spire.eu/sites/template.drupal.pulsartecnalialia.com/files/documents/SIDERWIN-Project%20Presentation%20-%20WEB_v0.1.pdf) and could be uploaded in SlideShare.
- Videos to communicate the project's vision, objectives and results. Two videos are scheduled: one animation at start of the project (<https://youtu.be/OSG421hiKXA>) and one video focusing on the results at the pilot plant. These videos will be accessible through the website and could be uploaded in YouTube.

Finally, the deliverables will also offer a good mean for disseminating the performed activities and achieved results. Public deliverables will be accessible through the website, meanwhile confidential deliverables will be used to spread the knowledge within the partners' organizations.

3.5.4 Special Interest Group (SIG)

The "SIDERWIN Special Interest Group" was created at the beginning of the project to engage stakeholders with the SIDERWIN consortium. The SIG is an informal group of external stakeholders interested in the project (i.e. possible beneficiaries, end users, ...). Participation in this group is under accepted subscription and it is managed through the website to ease the contact of the interest people/entities.

For this purpose, a specific section is available through the website vertical navigation bar where a form to be completed by people/entities interested in being part of the SIG is available. They will receive via email a newsletter at least every 3 months starting in April 2019 with information about relevant news, events and results of the project.

3.5.5 Channels offered by the European Commission and SPIRE

The SIDERWIN consortium will make use of the tools offered by the European Commission and SPIRE in order to maximise the diffusion of the project.

European Commission

The EC offers different tools such as:

- The "projects and results" service from CORDIS that provides: (i) "project information" based on the project's grant agreement, (ii) "report summaries" that come from the publishable summaries of periodic and final reports submitted by the project participants and approved by the project officer and (iii) "Results in Brief" written by CORDIS science editors based on each report summary
- CORDIS Wire to publish articles on the CORDIS News and Events service
- research*eu Results Magazine that features highlights from the most exciting EU-funded research and development projects

A.SPIRE

A.SPIRE is the European Association which is committed to manage and implement the SPIRE Public-Private Partnership. It represents innovative process industries, 20% of the total European manufacturing sector, and more than 130 industrial and research process stakeholders from over a dozen countries spread throughout Europe. A.SPIRE's offers different communication tools/channels for dissemination of project outputs such as:

- A dedicated page on the SPIRE website where information about all SPIRE projects and links to project-dedicated websites are published (<https://www.spire2030.eu/printpdf/projects/our-spire-project/2218>).
- A section of the SPIRE website, SPIRE Newsletter and Twitter account where project related announcements can be published
- Annual projects brochure
- SPIRE event (such as Impact workshop, SPIRE projects' conference, etc.)

3.5.6 National and European technology platforms and associations

The link of the SIDERWIN partners with a number of relevant national/European platforms and associations, closely related with the SIDERWIN objectives, provide a great chance for disseminating the project activities and increasing the number of reached stakeholders. The

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Annex I gathers information of some of these platforms and associations together with the type of involvement of the partners. An updated list of the platforms and associations where the partners are involved would be available in the SIDERWIN Sharepoint.

3.5.7 Scientific and trade journals

Scientific publications are an effective way to disseminate high-level project information and to attract the interest of representatives of the various target groups. Similarly, publications in trade journals can attract the attention of potential beneficiaries of the SIDERWIN results. The industrial and academic partners will individually and in collaboration publish and present scientific advances in scientific journals (peer reviewed or not) and trade magazines, taking into account confidentiality and IPR protection aspects.

Table 1 provides some examples of scientific and trade journals where the SIDERWIN partners could submit papers along the project.

3.5.8 National and international conferences

National and international conferences are a good opportunity to share the results with experts in the field and, therefore, to achieve an effective dissemination of the project.

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Table 2 provides some examples of national and international conferences where the project and its results could be presented.

3.5.9 Workshops and trade fairs

Finally, workshops and large events such as trade fairs will be attended by the partners to disseminate both the techniques developed during the project and the achieved results to the targeted beneficiaries of the SIDERWIN project.

Table 3 provides some examples of potential events.

3.5.10 Media and social media coverage

SIDERWIN news in the media (newspapers, magazines, radio...) are expected to inform to general public about the project and reflect the impact of EU research and innovation funding on European industry and environment.

3.5.11 SIDERWIN workshop

At the end of the project, the final SIDERWIN workshop will be organized to show the achieved results and to give the opportunity to meet potential interested clients (either on public or private field), investors and researchers. Target audience could include different players in the scientific, industrial, financial and social fields, as well as journalists. Announcement of the SIDERWIN workshop will be done through all the available channels (web, Twitter, LinkedIn, EU/SPIRE tools, related Platforms and Associations, etc.) to reach the maximum audience as possible.

3.5.12 Other activities

Presentations of the project at the universities will be carried out, mainly by the academic partners, in order to promote the research fields of the SIDERWIN project.

Direct proactive communication with stakeholders during visits/meetings and internal meetings inside of the partners organizations will help raising awareness of the goal/benefits of the project.

At the end of 2019 a webinar will be organised, as part of the intermediate phase mentioned in section 3.3, to inform and engage target stakeholders with the results available till this stage of the project.

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Table 1. Scientific and trade journals

Journal/Magazine Name	Type	Journal/Magazine topics	Indexed (Yes/No)	Other relevant information
Computers & Chemical Engineering	Scientific	Modelling, numerical analysis and simulation; Mathematical programming (optimization); Process dynamics, control and monitoring; Plant operations, integration, planning/scheduling and supply chain; Enterprise-wide management and technology-driven policy making	Yes	Q1 Chemical Engineering (Miscellaneous) - SJR 2017 1.02
DYNA Journal (Spain)	Scientific	Journal of general engineering; Industrial innovation, engineering and management.	Yes	Q3 Engineering (Miscellaneous) – SJR 2017 0.15
Electrochimica Acta	Scientific	Analytical Electrochemistry; Bioelectrochemistry; Electrochemical Energy Conversion and Storage; Electrochemical Materials Science; Electrochemical Process Engineering and Technology; Molecular Electrochemistry Physical Electrochemistry	Yes	Q1 Chemical Engineering (Miscellaneous) - SJR 2017 1.44
International Journal of Life Cycle Assessment	Scientific	Journal devoted entirely to Life Cycle Assessment (LCA) and closely related methods. It is a forum for scientists developing LCA and LCM (Life Cycle Management); LCA and LCM practitioners; managers concerned with environmental aspects of products; governmental environmental agencies responsible for product quality; scientific and industrial societies involved in LCA development, and ecological institutions and bodies.	Yes	Q1 Environmental Science (Miscellaneous) - SJR 2017 1.44
Journal of Applied Electrochemistry	Scientific	Technologically orientated aspects of electrochemistry	Yes	Q2 Chemical Engineering (Miscellaneous) - SJR 2017 0.65

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Journal/Magazine Name	Type	Journal/Magazine topics	Indexed (Yes/No)	Other relevant information
Journal of Cleaner Production	Scientific	Cleaner production and technical processes; Sustainable Development and Sustainability; Sustainable Consumption, Environmental and sustainability assessment	Yes	Q1 Environmental Science (Miscellaneous) - SJR 2017 1.47
Journal of Electroanalytical Chemistry	Scientific	Electrochemical science in all its aspects	Yes	Q1 Chemical Engineering (Miscellaneous) - SJR 2017 0.76
Journal of Sustainable Metallurgy	Scientific	Metallurgical processes and related research aimed at improving the sustainability of metal-producing industries, with a particular emphasis on materials recovery, reuse, and recycling	No	
Journal of the Electrochemical Society	Scientific	Energy storage and conversion; Corrosion; Electrodeposition; Electrocatalysis; Double layer phenomena; Sensors; Bioelectrochemistry; Electrochemical engineering; Electroanalytical chemistry	Yes	Q1 Condensed Matter Physics – SJR 2017 1.27
SIDENEWS	Trade	Steelmaking	No	Managed by SIDEREX (the Spanish Association of Steelworks Exporters) whose main goals are to promote Spanish steel exports.
Simulation Modelling Practice and Theory	Scientific	Theoretical aspects of modelling and simulation; methodology and application of modelling and simulation in any area; distributed and real-time simulation; tools for high performance computing simulation, including dedicated architectures	Yes	Q1 Hardware and Architecture – SJR 2017 0.68

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Table 2. National and international conferences

Conference Name	Scope	Conference topics	Type of audience	Organiser
COM – Conference of Metallurgists	International	Environment; Hydrometallurgy; Light Metals; Management in Metallurgy; Materials; Minerals Science and Engineering; Pyrometallurgy	Researchers and practitioners	MetSoc
ESTAD – European Steel Technology and Application Days	International	Steelmaking, Rolling, Environmental and energy	Researchers and practitioners from equipment suppliers, plant manufacturers & steelmakers	ASMET, AIM, A3M, Steel Institute VDEh and Jernkontoret
ECCC – European Continuous Casting Conference	International	Steelmaking (Continuous Casting)	Steelmakers, Researchers	ASMET
EUROSIM Congress	International	Simulation and modelling	Researchers and practitioners	Federation of European Simulation Societies
ICSTI – International Congress on Science and Technology of Ironmaking	International	Cokemaking; Iron ore production and handling; Sintering; Pelletising; Blast furnace ironmaking; Direct reduction; Smelting reduction; Environmental control in coke and ironmaking; CO2 reduction and energy saving; Recycling of in-plant residues; Automation and digitalization in coke and ironmaking; Modelling and simulation in coke and ironmaking	Researchers and practitioners	ASMET
IFAC-MMM – Symposium on Automation in Mining, Mineral and Metal Processing	International	Process modelling; Control and optimization; Advanced process control; Data mining and statistical analyses; Artificial intelligence, machine learning systems	Professionals, researchers and experts	IFAC MMM

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Conference Name	Scope	Conference topics	Type of audience	Organiser
Life Cycle Management (LCM) conference	International	Life cycle sustainability and circular economy	Researchers and practitioners	Changes with each conference
Materials Science and Technology	International	Materials Science	Material researchers and industries	AIST, ASM, TMS
Society of Environmental Toxicology and Chemistry (SETAC)	International	Dedicated to the use of multidisciplinary approaches to examine the impacts of stressors, chemicals, and technology on the environment. Sessions related to developments in LCA	Researchers and practitioners	SETAC

Table 3. Events (Workshops and Fairs)

Fair/workshop Name	Scope	Event topics	Audience profile	Web	Organiser
Electrochemical Society Meetings	International	Solid-state and Electrochemical Science and Technology	Professionals, researchers, experts and students	https://www.electrochem.org/meetings/	The Electrochemical Society
METEC – International metallurgical trade fair	International	Metallurgy; Steelmaking	Researchers and practitioners	http://www.metec-tradefair.com/	GIFA, METEC, THERMPROCESS and NEWCAST
STAHL - International annual meeting of steel makers and suppliers	International	Steelmaking	Professionals, researchers and experts	http://www.stahl-online.de/	Steel Institute VDEh

3.6 Dissemination management

A special section in the SIDERWIN Sharepoint was created for the management of the dissemination activities (planning, monitoring, storing dissemination material, ...).

3.6.1 Distribution of responsibilities

According to the Article 29.1 of the Grant Agreement “*each beneficiary must — as soon as possible — ‘disseminate’ its results by disclosing them to the public by appropriate means (other than those resulting from protecting or exploiting the results), including in scientific publications (in any medium)*”. Therefore, every possible opportunity will be embraced, by individual partners or on collective basis through joint appearance by more than one partner, to make SIDERWIN project known among technicians and general public as well.

TECNALIA will act as Dissemination and Communication Manager of the project coordinating and supervising all the dissemination activities. On the other hand, all partners of the consortium will contribute to the SIDERWIN dissemination according to their foreseen role and effort and using all available tools and channels (thus for instance by participating and giving presentations at conferences and workshops, publishing papers, networking, attending to fairs and showcases where technical achievements and prototypes can be shown to stakeholders, etc.) for the purpose of the project results adoption and successful future commercialization of SIDERWIN outputs.

3.6.2 Dissemination policy and rules

Dissemination activities in the SIDERWIN project are deeply joined with the intellectual property rights protection and confidentiality aspects that are clearly stated in the articles 23a and 36 of the Grant Agreement respectively and adjusted in the Consortium Agreement. It is important to find out a good equilibrium among the interests of academia and industry partners. Usually, the academia partners tend to publish all information they have at disposal, which is caused by academia common motivation systems, while the industrial partners’ decision whether, when and where to publish can depend on commercial considerations.

The basic regulation of the dissemination activities in the Consortium Agreement states that:

During the Project and for a period of 3 year after the end of the Project, the dissemination of own Results by one or several parties including but not restricted to publications and presentations, shall be governed by the procedure of Article 29.1 of the Grant Agreement subject to the following provisions:

- *Prior notice of any planned publication shall be given to the other Parties at least 45 calendar days before the publication.*
- *Any objection to the planned publication shall be made in accordance with the Grant Agreement in writing to the Coordinator and to the Party or Parties proposing the dissemination within 30 calendar days after receipt of the notice. If no objection is made within the time limit stated above, the publication is permitted.*

An objection is justified if:

- (a) *the protection of the objecting Party’s Results or Background would be adversely affected*
- (b) *the objecting Party’s legitimate academic or commercial interests in relation to the Results or Background would be significantly harmed.*

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(c) The proposed publication contains Confidential Information of the objecting Party.

The objection has to include a precise request for necessary modifications.

If an objection has been raised the involved Parties shall discuss how to overcome the justified grounds for the objection on a timely basis (for example by amendment to the planned publication and/or by protecting information before publication) and the objecting Party shall not unreasonably continue the opposition if appropriate measures are taken following the discussion.

The objecting Party can request a publication delay of not more than 90 calendar days from the time it raises such an objection. After 90 calendar days the publication is permitted, provided that appropriate measures are taken that remove the justification of the objection.

A Party shall not include in any dissemination activity another Party's Results or Background without obtaining the owning Party's prior written approval, unless they are already published.

The project partners will follow the open access principle, according to the article 29.2 of the Grant Agreement. They will publish their results based on the green model (http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hioa-pilot-guide_en.pdf) and use their organisation's existing institutional repositories to offer free online access to scientific journal articles and reports to increase the visibility and availability of SIDERWIN output. The Dissemination manager (TECNALIA) has its own repository following the 'green' open access model. According to the Grant Agreement,

the bibliographic metadata must be in a standard format and must include all of the following:

- *the terms "European Union (EU)" and "Horizon 2020";*
- *the name of the action, acronym and grant number;*
- *the publication date, and length of embargo period if applicable, and*
- *a persistent identifier.*

According to the article 29.4 of the Grant Agreement, unless the Commission requests or agrees otherwise or unless it is impossible, it is necessary to include the European emblem and the following statement of financial support in all the dissemination documents and applications for protection of results:

"This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 768788".



When displayed together with another logo, the EU emblem must have appropriate prominence. According to the article 29.5, any dissemination of results must include the following Disclaimer excluding Commission responsibility:

"This [insert type of activity] reflects only the author's views and the Commission is not responsible for any use that may be made of the information contained therein"

Finally, in addition to the acknowledgement to the EU, all the dissemination material will include:

- the acronym of the project: SIDERWIN
- the logo of the project, if feasible
- the project's website URL (<https://www.siderwin-spire.eu/>)

3.6.3 Dissemination activities planning and follow-up

As described in the previous sections, a key element for the dissemination of the project results is their presentation in: scientific and technical publications, trade journals and magazines, national and international relevant scientific conferences, workshops, exhibitions, fairs and the media (Press releases, radio, TV...).

For the planning and follow-up of these activities, a section in the SIDERWIN Sharepoint has been designed in order to create and store the “Dissemination reports” of each activity. The goal of these reports is to collect the most relevant information of each activity and to allow its monitoring from the moment of its planning until its execution. In this way, the partners will start filling the report as soon as they decide to perform an activity and then, when the activity is finished, they will finish the report.

Five different types of reports have been defined depending on the type of activity: (i) paper on a journal/magazine, (ii) presentation in a conference, (iii) participation in an event (fair, workshop...), (iv) presence in the media (press, TV,..) and (v) any other type of activity. The templates for each one of the reports are included in the Annex II, but mainly they include:

- general information about the event (name, type, scope, audience...)
- information about the action (title, topic, authors...)
- feedback gathered by the respective partners from the target audience (if applicable) and eventually gained contacts for further dissemination purposes

3.6.4 Evaluation and assessment

The evaluation of the SIDERWIN dissemination activities and the assessment of their impact will be carried out through different means. On the one hand, the partners have set up several Key Performance Indicators (KPI), together with their main metrics and a numerical target for each one of them for the first 18 months of the project (see Table 4). The target has been estimated taking into account the individual partner’s input and considering a minimum threshold to have proper dissemination. It is foreseen that the number of dissemination actions (papers, conferences, workshops, fairs,...) will increase as the project progresses and results are achieved. If needed, new KPIs/metrics could be defined along the project.

During the WP8 meetings and/or the Project progress meetings organised every 6 months, the real and planned values of the KPIs will be analysed, and, if needed, contingency plans could be defined in case the threshold is not reached. The update of the deliverable 8.2 Master Dissemination and Communication plan and Updates at month 36 and 48 will also analyse the real performance of the KPIs up to that moment and it will include new target values for the next period time. Finally, at the end of the project, the deliverable “D8.6. *Dissemination and communication actions survey*” will analyse all the activities performed and collect the final performance of the KPIs.

On the other hand, for the updates of the Dissemination and Communication plan, the partners will carry out an internal evaluation of the project dissemination effectiveness in order to detect the potential weaknesses and propose further actions to improve the dissemination plan. This

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internal evaluation will be performed through a specific questionnaire implemented in the SIDERWIN Sharepoint and based on questions like:

1. Do the dissemination activities address all the relevant target groups?
2. Are the individual target groups addressed by means of proper communication channels and tools?
3. Are the dissemination activities carried out timely, in accordance with the schedule of principal project outcomes?
4. Is the dissemination material suitable and enough?
5. Does the website provide useful content to all the identified target groups (measured by the number of visitors and feedback provided by them)?
6. Are the number of dissemination activities towards research community sufficient (i.e. the number of papers in journals, workshop and conference proceedings etc.)?
7. Are the number of dissemination activities towards the industrial community sufficient (i.e. number of presentations at industrial events)?
8. Are the number of dissemination activities towards the general public sufficient (web activities, articles, papers, presentations)?

In addition, all events organised by the consortium will be evaluated afterwards by questionnaires to participants. These evaluations will be used as input to improve later such events.

Table 4. Key Performance Indicators and metrics for the evaluation of the dissemination activities and target values for the first 18 months of the project (M1-M18)

ID	Indicator	Metrics	Target values (M1-M18)
KPI1	General public awareness through the website and social media	Number of visits on the project website	50 visits/month
		Number of presentations upload to the Website/SlideShare	2
		Number of videos upload to Website/Youtube	1
KPI2	Awareness of the Scientific Community interest	Number of papers in scientific journals	1
		Number of presentations in scientific conferences/workshops	2
KPI3	Awareness of the industrial Community interest	Number of papers in trade journals	5
		Number of participations at events with industry (fairs, exhibitions, workshops...)	3
		Number of Interest expressions from industry to receive more information + industrial members of the Special Interest Group (SIG)	10
KPI4	SIDERWIN final workshop	Number of people attending the final SIDERWIN workshop	70

4 Activities done during the first 18 months

This section describes the main dissemination and communication activities carried out during the first 18 months of the project (M1 to M18).

4.1 Design of the SIDERWIN logo and visual identity

The SIDERWIN logo was designed by a professional marketing company at the beginning of the project. It is worth mentioning that the selection of the project logo was an open process within the consortium, where all the partners had the opportunity to choose their favourite one among the different logo proposals, as well as to make suggestions through the questionnaire sent by TECNALIA, as WP8 Leader.

The final logo took into consideration some of the changes proposed by the SIDERWIN partners.

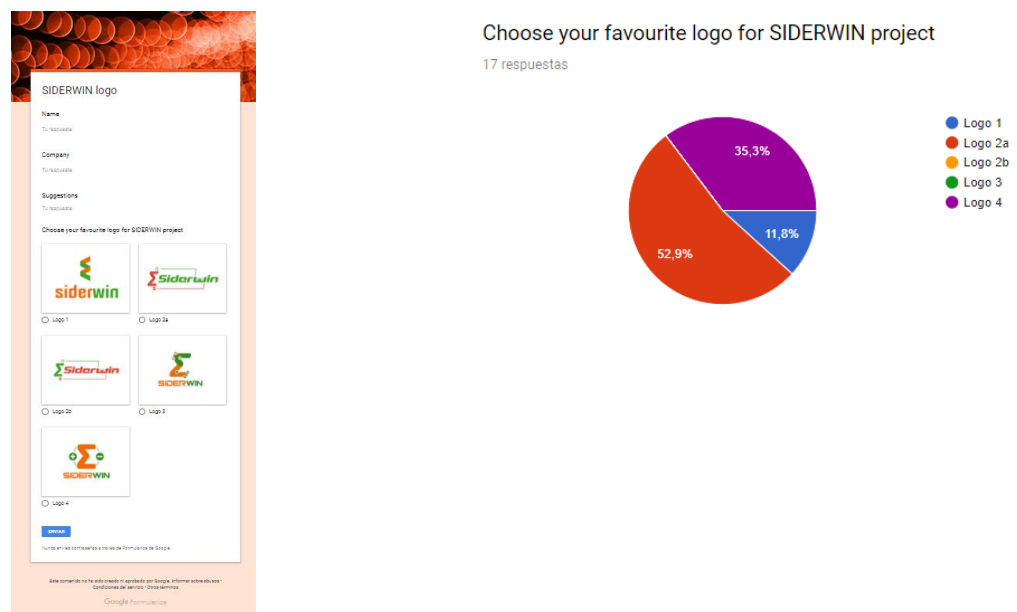


Figure 2. a) SIDERWIN logo questionnaire; b) SIDERWIN logo votation answers

Two versions of the logo are available, the main one (Figure 3.a) includes the name of the project, and there is also a simplified version focused on social networks profiles (Figure 3.b).



Figure 3. a) Main SIDERWIN logo; b) Short SIDERWIN logo

The SIDERWIN logo will be incorporated in all the deliverables, reports and dissemination material/tools.

4.2 Implementation and update of the SIDERWIN Web page

The SIDERWIN website <https://www.siderwin-spire.eu/> is available since month 3 of the project and it was described in the deliverable D8.1. Project website. Oriented to the dissemination, the website provides essential information related to the project and the partners through different sections (see Figure 4):

- **Home:** provides an overview of the project
- **Objectives:** provides a description of project objectives and the background
- **Workpages:** describes the eight WP and the relation between them
- **Consortium:** present the involved partners and a link to their websites
- **Documents:** provides access to public documents of the project (public deliverables, open access papers, etc.) and dissemination material (flyers, presentations, videos,...)
- **Cocreation area:** provides a link to the Collaborative platform
- **News:** provides general information (both internal and external) related to the project
- **Events:** provides information about events organised/attended by the consortium (meetings and dissemination events)
- **Special Interest Group:** manage the subscription of the interested people/entities on being part of the SIG (not available yet).
- **Contact us:** provides the public audience the contact points where asking for more information about the project



Figure 4. Screenshot of SIDERWIN homepage and footer

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The SIDERWIN website provides links to H2020 and SPIRE websites and also to the SIDERWIN Twitter account and LinkedIn page. It also allows using the Google Analytics utilities in order to monitor the website access: number of visitors, duration of the visits, geographical area, pages of the website more visited, ...

The website is being updated regularly by the website-manager upon with inputs of partners.

Analysis of the SIDERWIN website visits (until 31st March 2019)

SIDERWIN uses Google Analytics to monitor the behaviour of the website. This allows the project to steer the strategy with the main aim of reaching the right audience. From the analytics collected over a period of 15.5 months (since 12/22/2018 until 03/31/2019) it can be seen that the total number of users of the SIDERWIN website is 1,553 of which 1,538 are new users. In total 2,534 sessions have been opened with an average of 1.63 sessions per user and an average duration of 00:02:52. Figure 5 shows the evolution of the number of users and sessions along this period and Figure 6 the channels used for the access to the website and the evolution of the number of users per month. Now about 45.1% of the visitors to the SIDERWIN website come through organic searches, 34% through a direct access, 17.8% through referral and 2.9% from the social networks.

Figure 7 shows the most visited pages of the website. After the homepage with the 29.84% of visitors, the second position corresponds to the page with the objectives of the project (9.16%) followed by the deliverables section (8.41%).

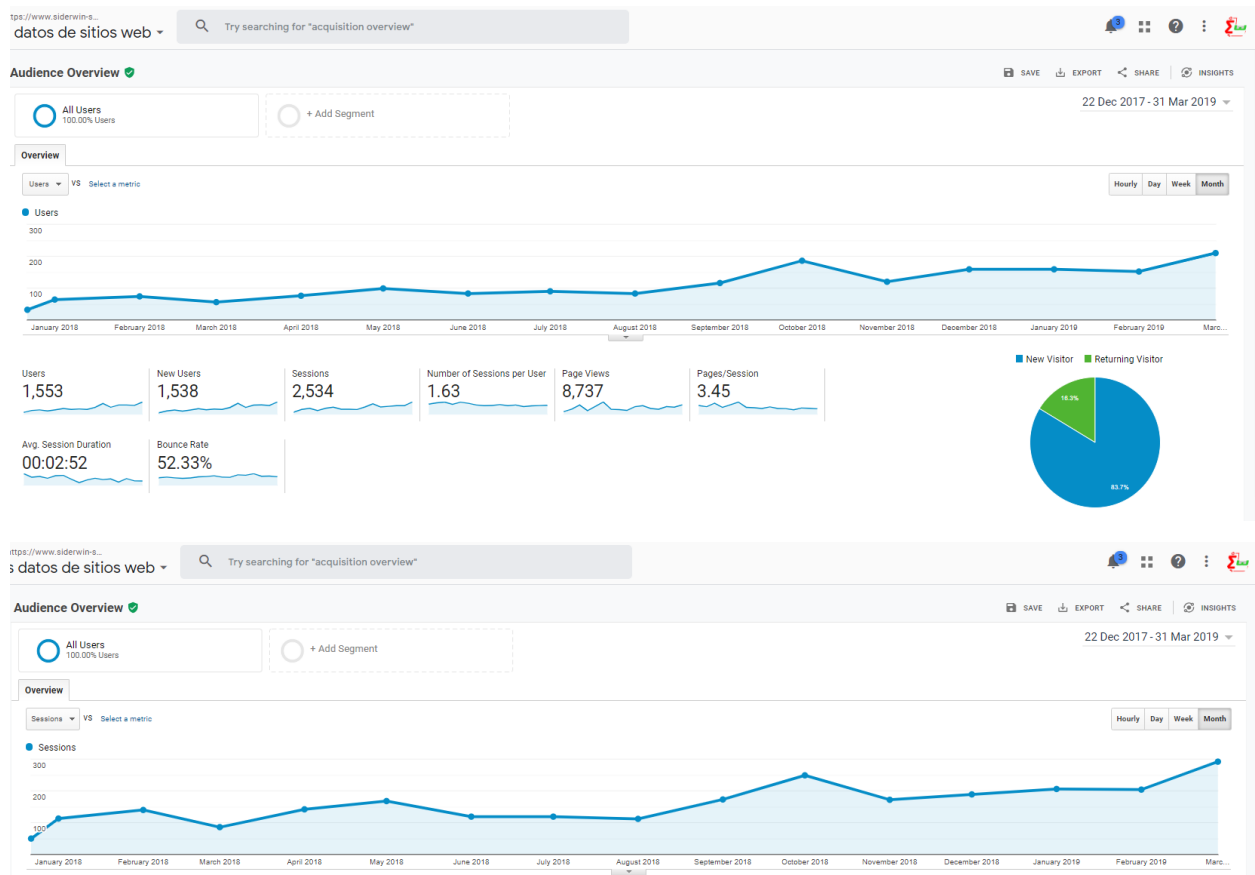


Figure 5. Users(top) and sessions (bottom) evolution to SIDERWIN website (22nd December 2017- 31st March 2019)

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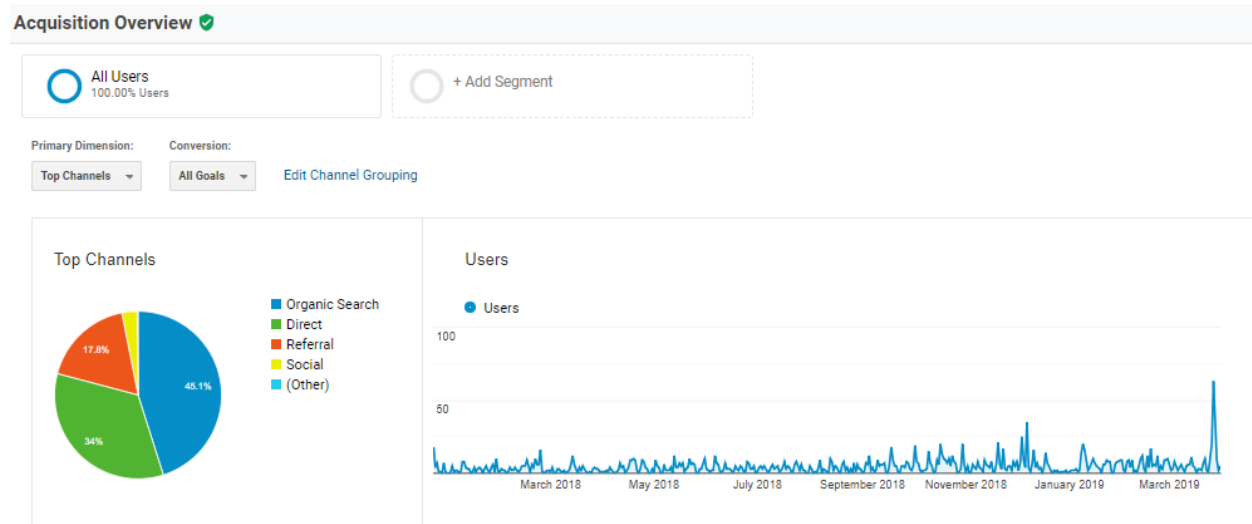


Figure 6. Traffic in SIDERWIN website

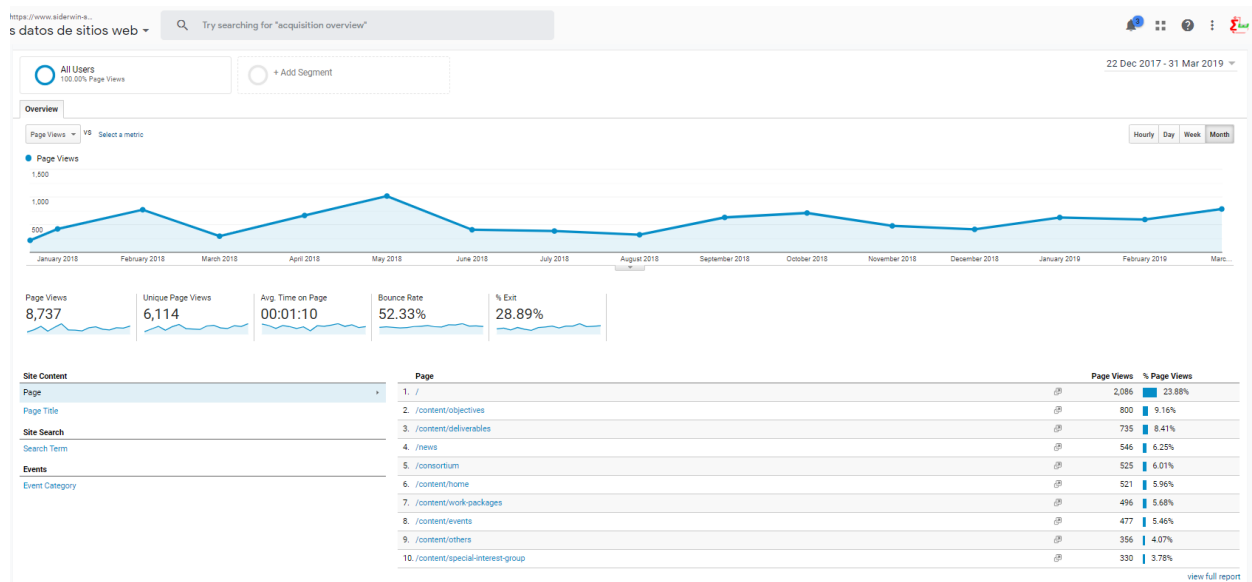


Figure 7. Most visited pages of SIDERWIN website

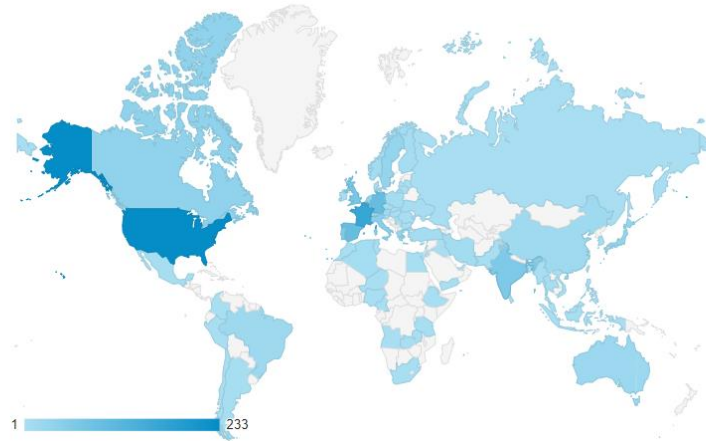
Finally,

Country	Acquisition			Behaviour		
	Users	New Users	Sessions	Bounce Rate	Pages/Session	Avg. Session Duration
	1,553 % of Total: 100.00% (1,553)	1,538 % of Total: 100.00% (1,538)	2,534 % of Total: 100.00% (2,534)	52.33% Avg for View: 52.33% (0.00%)	3.45 Avg for View: 3.45 (0.00%)	00:02:52 Avg for View: 00:02:52 (0.00%)
1. United States	277 (17.58%)	277 (18.01%)	287 (11.33%)	86.76%	1.53	00:00:40
2. France	177 (11.23%)	174 (11.31%)	264 (10.42%)	56.06%	2.58	00:02:24
3. Belgium	166 (10.53%)	157 (10.21%)	301 (11.88%)	54.49%	2.97	00:02:27
4. Spain	130 (8.25%)	122 (7.93%)	376 (14.84%)	32.45%	6.18	00:05:55
5. Germany	104 (6.60%)	102 (6.63%)	152 (6.00%)	45.39%	3.10	00:03:03
6. United Kingdom	73 (4.63%)	72 (4.68%)	103 (4.06%)	57.28%	3.53	00:02:56
7. India	68 (4.31%)	68 (4.42%)	75 (2.96%)	61.33%	1.85	00:02:13
8. Portugal	59 (3.74%)	58 (3.77%)	199 (7.85%)	20.60%	6.33	00:02:59
9. Italy	45 (2.86%)	45 (2.93%)	52 (2.05%)	71.15%	2.17	00:01:18
10. Canada	36 (2.28%)	35 (2.28%)	42 (1.66%)	73.81%	2.10	00:02:52

Figure 8 shows the percentage of visits per country. It is remarkable that the first position is occupied by USA. The second, third and fourth positions are occupied by countries with partners involved in the SIDERWIN consortium: France (11.33%), Belgium (10.53%) and Spain (8.25%),

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

respectively. Looking at the world map, it could be said that the visibility of the project website is spread to worldwide.



Country	Acquisition			Behaviour		
	Users	New Users	Sessions	Bounce Rate	Pages/Session	Avg. Session Duration
	1,553 % of Total: 100.00% (1,553)	1,538 % of Total: 100.00% (1,538)	2,534 % of Total: 100.00% (2,534)	52.33% Avg for View: 52.33% (0.00%)	3.45 Avg for View: 3.45 (0.00%)	00:02:52 Avg for View: 00:02:52 (0.00%)
1. United States	277 (17.58%)	277 (18.01%)	287 (11.33%)	86.76%	1.53	00:00:40
2. France	177 (11.23%)	174 (11.31%)	264 (10.42%)	56.06%	2.58	00:02:24
3. Belgium	166 (10.53%)	157 (10.21%)	301 (11.88%)	54.49%	2.97	00:02:27
4. Spain	130 (8.25%)	122 (7.93%)	376 (14.84%)	32.45%	6.18	00:05:55
5. Germany	104 (6.60%)	102 (6.63%)	152 (6.00%)	45.39%	3.10	00:03:03
6. United Kingdom	73 (4.63%)	72 (4.68%)	103 (4.06%)	57.28%	3.53	00:02:56
7. India	68 (4.31%)	68 (4.42%)	75 (2.96%)	61.33%	1.85	00:02:13
8. Portugal	59 (3.74%)	58 (3.77%)	199 (7.85%)	20.60%	6.33	00:02:59
9. Italy	45 (2.86%)	45 (2.93%)	52 (2.05%)	71.15%	2.17	00:01:18
10. Canada	36 (2.28%)	35 (2.28%)	42 (1.66%)	73.81%	2.10	00:02:52

Figure 8. SIDERWIN website users by country

4.3 SIDERWIN at social networks

The Twitter account for the project @SIDERWIN_Spire and the LinkedIn profile are already available (see Figure 9) and they are used to publish announcement and relevant information about the project.

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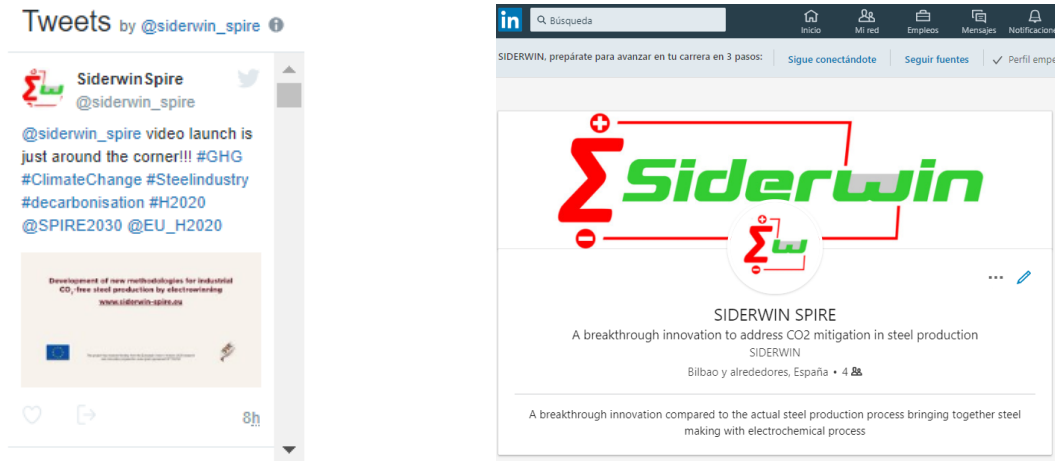


Figure 9. SIDERWIN Twitter account and LinkedIn profile

Official LinkedIn groups will be joined to raise awareness among interested stakeholders.

Analysis of the SIDERWIN Twitter activity (December 2018 till March 2019)

Figure 10 to Figure 15 depict the activity of the project's Twitter account since its launching in December 2017 till the end of March 2019 and the list of top tweets with the largest number of impressions. The first position is occupied by the tweet about the Life Cycle Perception (647 impressions), followed by the figures for the future electrowinning pilot (626 impressions) and the first tweet about the SIDERWIN consortium (585 impressions).

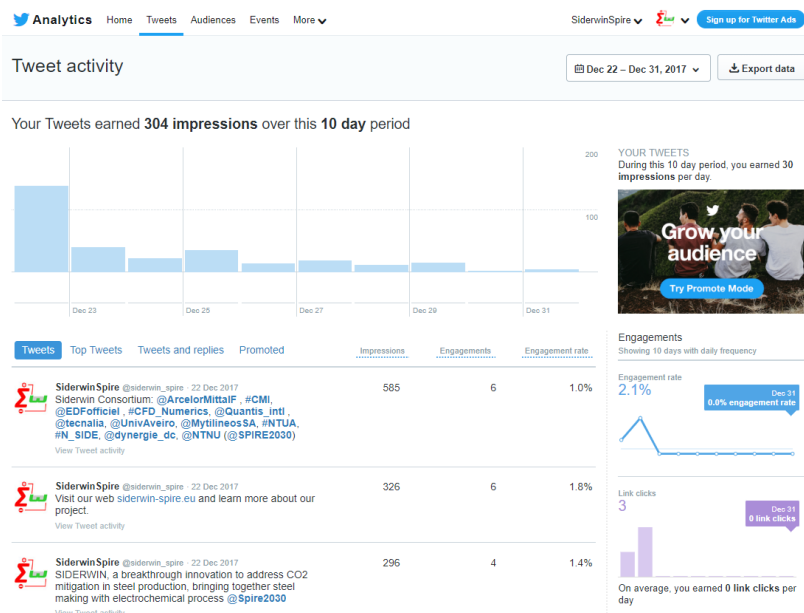


Figure 10. SIDERWIN Twitter activity register and Top Tweets (22nd Dec 2017 – 31st Dec 2017)

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

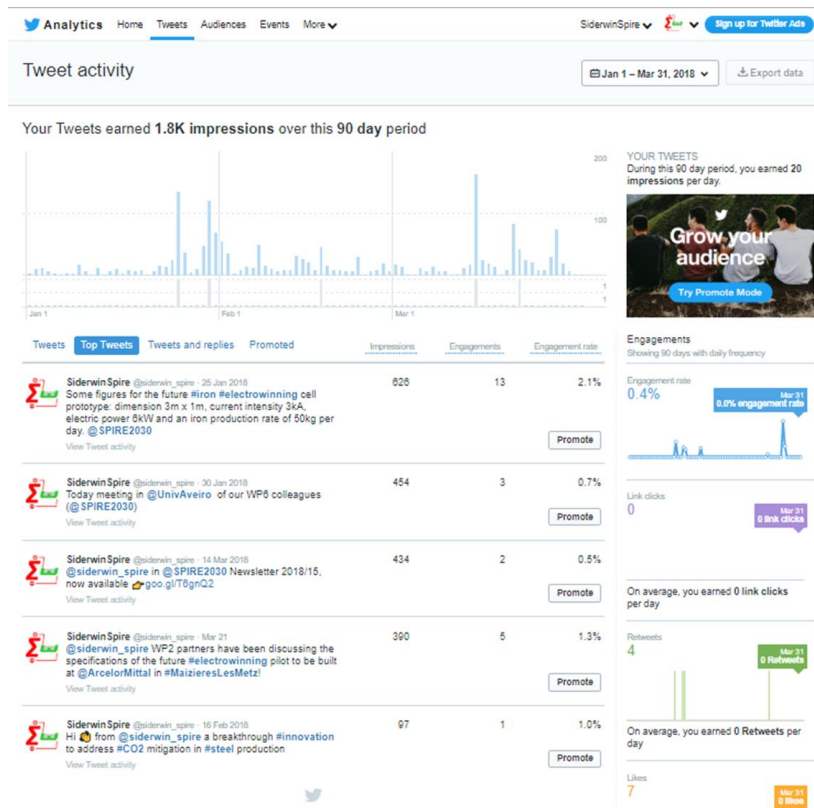


Figure 11. SIDERWIN Twitter activity register and Top Tweets (Jan 2018 – March 2018)

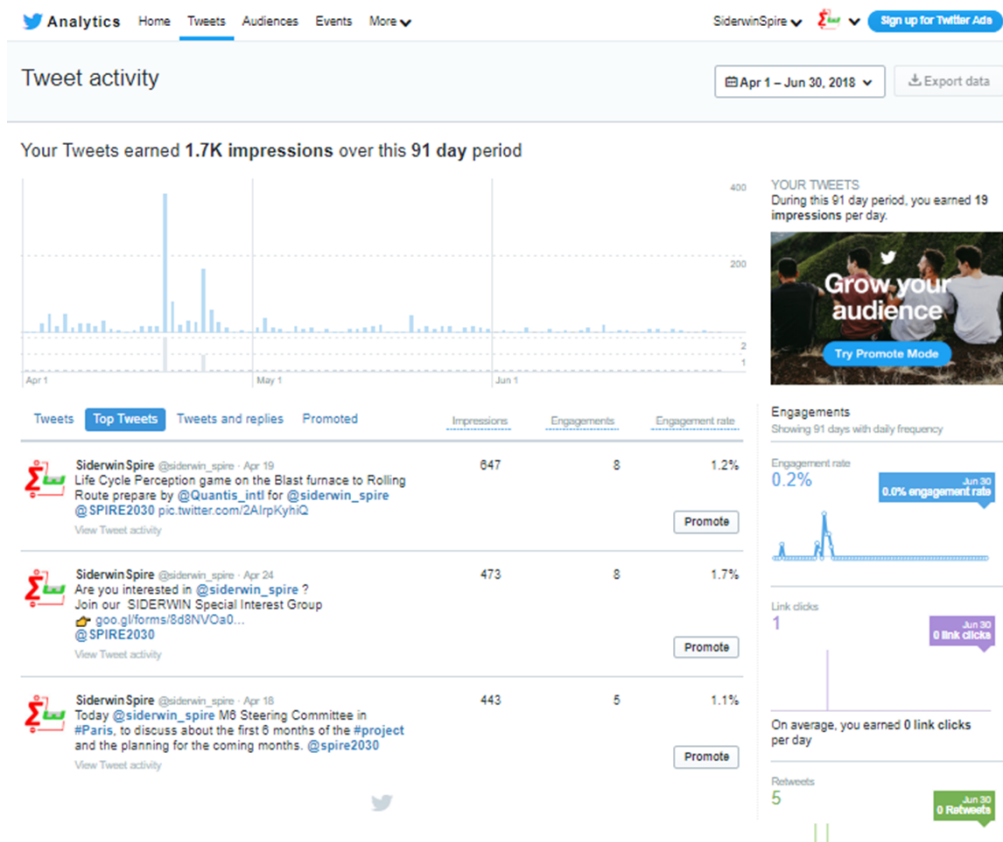


Figure 12. SIDERWIN Twitter activity register and Top Tweets (Apr 2018 – June 2018)

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

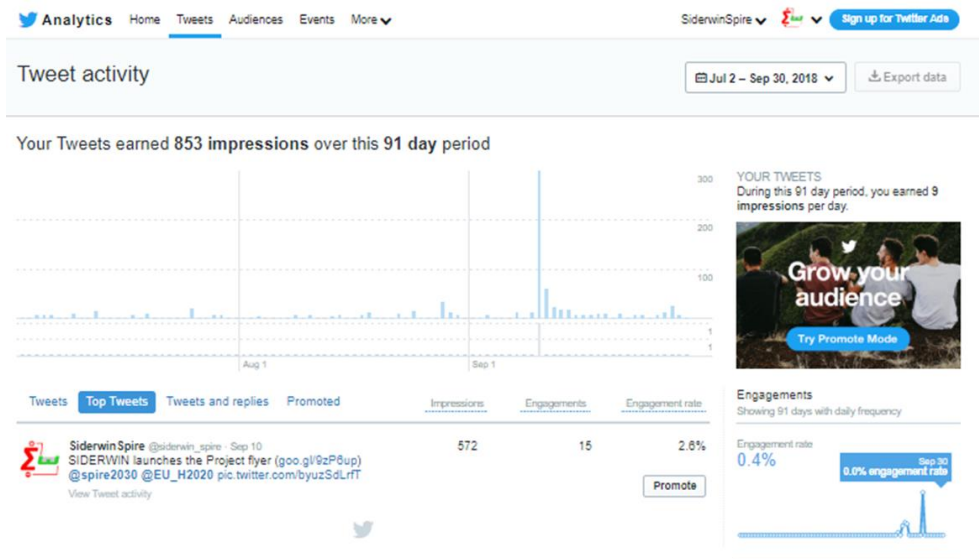


Figure 13. SIDERWIN Twitter activity register and Top Tweets (July 2018 – Sept 2018)

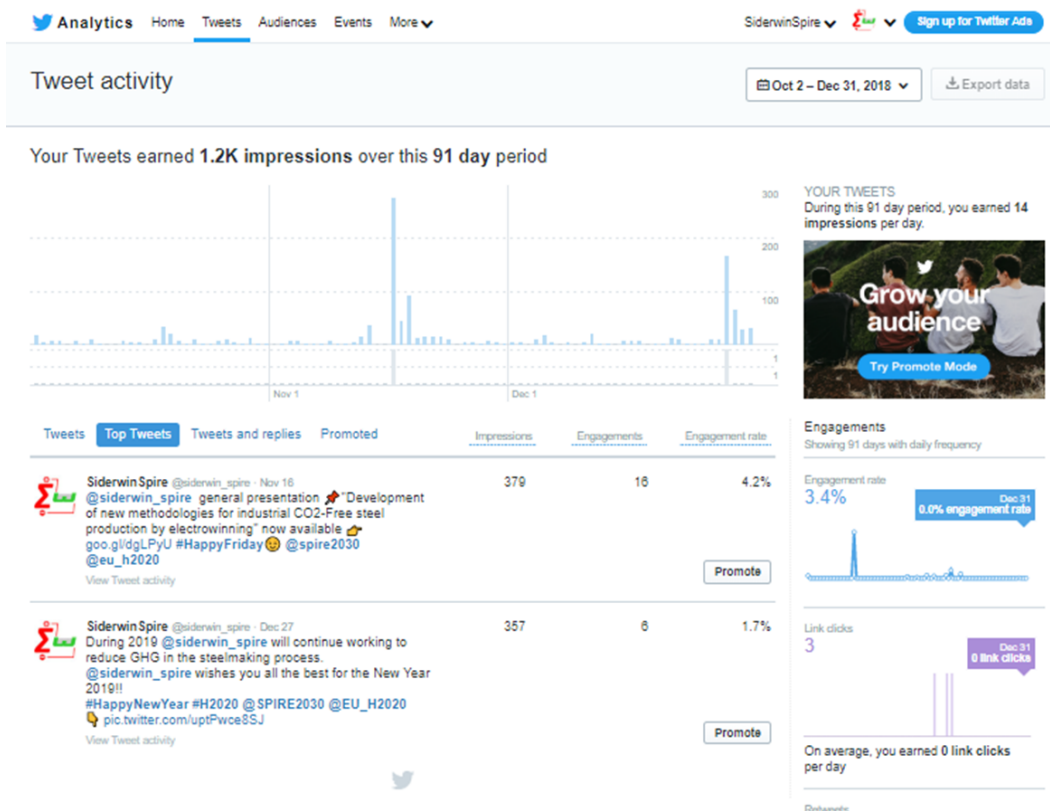


Figure 14. SIDERWIN Twitter activity register and Top Tweets (Oct 2018 – Dec 2018)

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

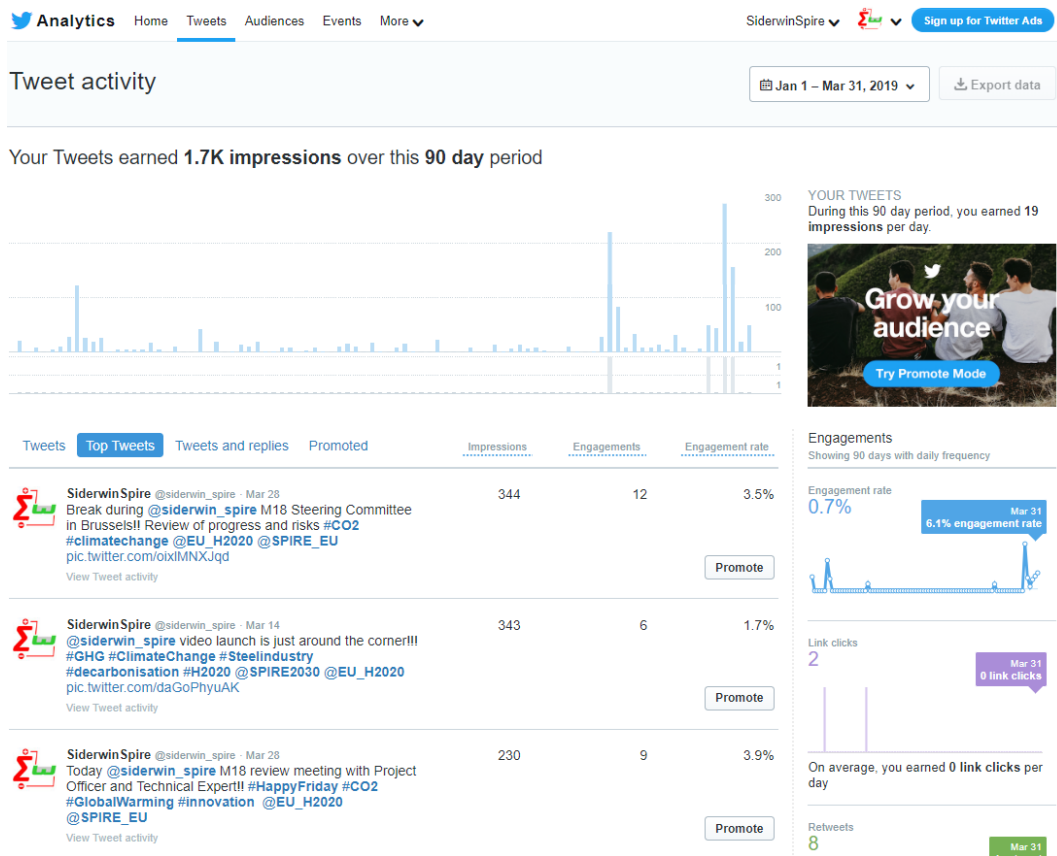


Figure 15. SIDERWIN Twitter activity register and Top Tweets (Jan 2019 – March 2019)

4.4 Preparation of dissemination material

The first flyer of the SIDERWIN project was available since M12. It presents the goals, the approach, the consortium and the main (expected) benefits. One-thousand copies were printed and distributed between the partners. The electronic version is available through the website (<https://www.siderwin-spire.eu/sites/template.drupal.pulsartecnalia.com/files/documents/flyer-siderwin%20FINAL.pdf>). A second flyer will be produced a few months before the end of the project.

A general presentation of the project was also produced and upload to the website (https://www.siderwin-spire.eu/sites/template.drupal.pulsartecnalia.com/files/documents/SIDERWIN-Project%20Presentation%20-%20WEB_v0.1.pdf). It describes the motivation and objectives, the approach, the pilot plant, the potential impact and the consortium of the project. New presentations will be produced during the project development.

During the first 18 months a total of 4 public deliverables (see Table 5) have been prepared and released for download through the website.

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Table 5. List of public deliverables produced by the SIDERWIN consortium during the first 18 months

Deliverable Title	Deliverable description
D8.1 Project website (December 2017)	Description of the SIDERWIN web page
D8.2 Master Dissemination and Communication plan and Updates (March 2018)	This deliverable includes the formulation of the SIDERWIN dissemination strategy and the action plan focused on the first 18 months of the project (M1-M18)
D8.2.1 Master Dissemination and Communication Plan and Updates (March 2019)	This deliverable includes the update of the SIDERWIN dissemination strategy, activities carried out during first 18 months and the action plan focused on the next 18 months of the project (M19-M36)
D8.3 Data Management Plan (March 2019)	This deliverable includes the data management plan of the SIDERWIN project.

Finally, a short animation video (around 2 minutes) has been produced in order to present the project in a way easily understandable by the general public and target end users. The video is available through the website, YouTube (<https://youtu.be/0SG421hiKXA>), Twitter and LinkedIn. Some screenshots are presented in Annex IV: First SIDERWIN video of this deliverable.

4.5 Creation and management of the Special Interest Group (SIG)

The rules for the management of the SIG have been agreed between the partners and the mechanism for the subscription of the members is available through the website, where a special section was created for this purpose in the vertical navigation bar (<https://www.siderwin-spire.eu/content/special-interest-group>). The SIG was launched by the month 7 and 18 people have registered at the time this report was written (M18).

Figure 16. SIDERWIN SIG registration form

Currently, the SIG is composed of eighteen members from which EU (67%), USA (16%) and other countries (17%). They have been classified depending on the type of entity they belong to:

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

members related with universities (33%), companies' management (22%), experts and researchers (17%) and the rest of members (28%).

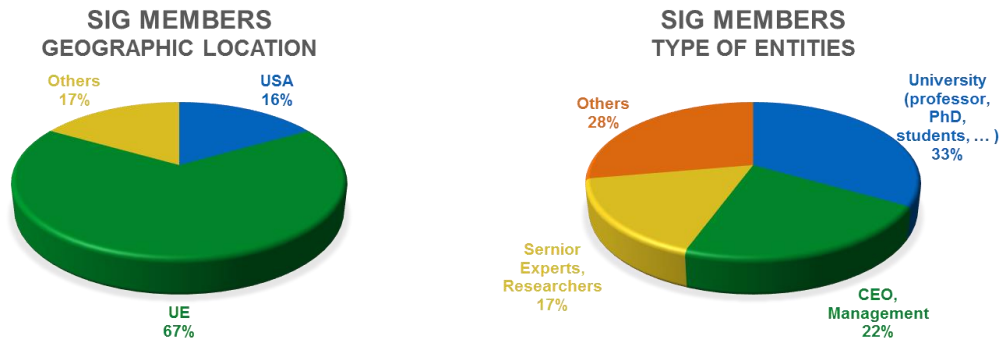


Figure 17. SIDERWIN SIG distribution (18 members on 03/31/2019)

4.6 Preparation of contributions for the EC and SPIRE dissemination channels

The partners will prepare the material needed to make use of the utilities offered by the EC and SPIRE explained in the above section. Until the moment of submitting this document:

- A short description of the project together with the logo and link to the SIDERWIN website has been published in the projects page of the SPIRE website (<https://www.spire2030.eu/projects/our-spire-project>) and also in the SPIRE-2017 projects' brochure (<https://www.spire2030.eu/sites/default/files/pressoffice/publication/Brochure-4.pdf>)
- Information of the project has been submitted and published in SPIRE newsletter [2018/15](#).

4.7 Publications in scientific and trade journals

The partners will publish the project activities and results in different scientific and trade journals. Table 6 shows the publications that have already been planned and published up to now. The target of publications for the first 18 months (M1-M18) is indicated in Table 4 of section 3.6.4.

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

Table 6. List of publications planned and done during the first 18 months

Name of the Magazine/Journal	Journal/Magazine type	Indexed	Impact factor SJR (and quartile)	Paper title	Paper topics	Partner coordinating the paper	Other partners involved	Status	Release date
SIDENEWS	Trade Journal	No		SIDERWIN: producción de acero mediante electrólisis para reducir emisiones CO2	Steelmaking	TECNALIA	N/A	Published	December 2018
Electrochimica Acta	International Journal	Yes	1.44 (2017) Q1		Main results on optimisation of electrowinning process for producing iron by electrodecomposition of hematite particles in aqueous sodium hydroxide solutions	NTNU			
Electrochimica Acta	International Journal	Yes	1.44 (2017) Q1		Results concerning the possibilities to use iron containing raw materials from the industrial processes for electrowinning of nickel and zinc	NTNU			
Electrochimica Acta	International Journal	Yes	1.44 (2017) Q1		Results concerning the Bauxite Residue electrolysis	NTUA			
Journal of Sustainable Metallurgy	International Journal	No			Results concerning the Bauxite Residue electrolysis	NTUA			
360° r&D	French magazine	No		CFD-Numerics apporte son savoir-faire au projet SIDERWIN pour développer de nouvelles techniques de production de fer	Presentation of Siderwin project	CFD-Numerics		Published	February 2018
Galvano Organo	French magazine	No		CFD-Numerics supporting industry	CFD-Numerics general activities and involvement in R&D projects - Siderwin presentation	CFD-Numerics		Published	January 2018
Electrochimica Acta	International Journal	Yes	1.44 (2017) Q1	Electrochemical reduction of hematite-based ceramics in alkaline medium: challenges in electrode design		AU		To be submitted (April 2019)	
Ceramics International	International Journal	Yes	0.78 (2017) Q1	Red mud based cellular ceramics for catalytic and electrocatalytic applications		AU		Planned	
Electrochimica Acta	International Journal	Yes	1.44 (2017) Q1	Prospects for Fe-electrowinning from red mud suspensions		AU		Planned	

4.8 Presentations at national and international scientific conferences

The partners will present the project activities and results at national and international conferences. Table 7 collects the main information of the presentations planned by the partners up to now at different national and international conferences, three in total. The target of presentations at conferences for the first 18 months (M1-M18) is indicated in Table 4 of section 3.6.4.

Table 7. List of national and international conferences identified for coming months

Conference Information					Presentation information					
Name of event	When	Where	Scope	Audience Profile	Presentation title	Presentation topics	Presentation type	Partner coordinating the activity	Other partners involved	Status
ECEEE2020 - European Council for an Energy Efficiency Economy	2020		European	Governments, industrialists, companies, research institutes		SIDERWIN results focused on Task 7.2	Paper	EDF		Planned
BR2020 - Bauxite Residue Valorisation	2020		International	Researchers and practitioners		SIDERWIN results focused on WP6	Paper	NTUA		Planned
SF2M - La Métallurgie, quel Avenir !	2019		French	Researchers		SIDERWIN project	Paper	AMMR		Planned
ESTAD - The 10th International Metallurgy Trade Fair (METEC)	2019		International					AMMR		Planned
7th Pan Hellenic Conference on Metallic Materials	2019							NTUA		Planned
Mining, Material, and Metallurgical Engineering (ICMME)	2019		International					NTUA		Planned
European Metallurgical Conference 2020	2020		European					NTUA		Planned
BR 2022	2022		International					NTUA		Planned
European Council for an Energy Efficiency Economy	2020		European				Paper and presentation	EDF		Planned

4.9 Participation at exhibitions, fairs and workshops

The partners will attend different events such as workshops, exhibitions and fairs. **Error! No se encuentra el origen de la referencia.** shows the events that have already been planned up to now. The target of participations at events for the first 18 months (month 1-18) is indicated in Table 4 of section 3.6.4.

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Table 8. List of events identified

Event information						Presentation information					
Name of event	Organiser	When	Where	Scope	Audience Profile	Presentation type	Presentation title	Presentation topics	Partner coordinating the activity	Other partners involved	Status
AXELERA Technical Day	AXELERA	M9	Lyon (France)	French	Industry / Academic				CFD-Numerics		Cancelled
European Steel Day	EUROFER	M9	Brussels (Belgium)	European	Industry / Academic	Speech	CO2 emission avoidance through direct reduction of iron ore		AMMR		Done
PRAXISforum "Electrolysis in Industry"	DECHEMA	M14	Frankfurt (Germany)	European	Industry / Academic	Speech	Massive production of primary iron metal by electrolysis		AMMR		Done
NAFEMS	NAFEMS	M14	Paris (France)	French	Industry	Speech	Application of CFD simulations to support ZIDERWIN project		CFD-Numerics		Done

As shown in Table 8, during the first 18 months of the project the partners have participated in different events to increase the visibility of the project and engage to the target stakeholders. Events organized or promoted by the EC in order to improve business opportunities through networking and better awareness of the technologies and services offered by COCOP

The full dissemination report of each activity (journal, conference, workshops, exhibition, etc) is stored in the collaborative tool of the project.

4.10 Other activities

Finally, the partners will conduct internal presentations/communications at their organisations to show the goals/progress of the project and will contribute to the project dissemination with communications in the media and in their day-to-day during visits with clients or meetings with other parties.

4.11 KPIs performance and evaluation

As it was explained in the previous section, some quantitative indicators have been defined for the purposes of evaluating the SIDERWIN dissemination activities. Table 9 shows the comparison between the target and real values for each metric of the KPIs in the M1-M18 period, as well as the target values for M36. A new KPI (KPI5) has been added to the initial ones for the first SIDERWIN webinar that will take place at the end of 2019. The main deviation is related to the number of papers (both scientific and trade journals), although it is expected that the number of publications increases considerably in the next period, when the project progresses and results were achieved.

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

Table 9. Key Performance Indicators and metrics for the evaluation of the dissemination activities, target and real values for M18 and planned values for next period (M18-M36)

ID	Indicator	Metrics	Target Value (M1-M18)	Real value (M1-M18)	Target Value (M19-M36)
KPI1	General public awareness through the website and social media	Number of visits on the project website	50 visits per month	108	100 visits per month
		Number of presentations upload to the Website/SlideShare	2	2	5
		Number of videos upload to Website/Youtube	1	1	5
KPI2	Awareness of the Scientific Community interest	Number of papers in scientific journals	1	0	15
		Number of presentations in scientific conferences/workshops	2	2	10
KPI3	Awareness of the industrial Community interest	Number of papers in trade journals	5	3	10
		Number of participations at events with industry (fairs, exhibitions, workshops...)	3	3	10
		Number of Interest expressions from industry to receive more information + industrial members of the Special Interest Group (SIG)	10	16	15
KPI4 ¹	SIDERWIN final workshop	Number of people attending the final SIDERWIN workshop	70	N/A	70
KPI5	SIDERWIN first webinar	Number of people attending the first SIDERWIN webinar (Dec 2019)	N/A	N/A	30

An internal evaluation of the project effectiveness was launched between the partners in order to detect the potential weakness and propose further actions to improve the dissemination plan. These questions are listed in section 3.6.4.

The questionnaire revealed that: i) sectors such as equipment providers, ceramic and cement industries that were not identified at the initial stage of the project should be also considered as target groups; ii) dissemination activities to industrial, general public and also between high and secondary schools' students should be increased; iii) the project is not understood and direct iron production is not always included in the map of CO₂ free steel production; iv) dissemination activities should be intensified with the production of results.

¹ This indicator is included to have an overview of all the KPIs defined for the project and it does not applied for the first months of the project.

5 Activities planned for M19 to M36

The activities planned for the next 18 months of the project (M19 – M36) are summarised below.

5.1 Maintenance of the SIDERWIN website, social media and SIG

The SIDERWIN website will be updated periodically with new contents such as summaries of the new released deliverables, information about project meetings and dissemination events participated by the partners, new dissemination material, etc.

During the first reporting period, the project has kept a low activity in Twitter and LinkedIn, focusing mainly on disseminating the material available at the website and launching of the SIG and retweeting content considered of interest for the followers. During the second period, as soon as more results were available, the project will increase its effort in these social networks as it is an excellent tool to show the project's achievements.

Finally, the maintenance of the SIG will include the management of the new members and the communication with all the members to provide them information about relevant news, events and results of the project. The mechanism to achieve this purpose will be a newsletter that will be sent to SIG members every 3 months or when relevant news were produced.

5.2 Preparation of dissemination material

During the next reporting period, different dissemination material will be produced along the following 18 months of the project, such as short project presentations (electronic version) showing the main achieved results.

In addition, the partners will prepare material to be disseminated through the channels offered by the EC, SPIRE and other entities, such as: newsletters, bulletins, news, reports, etc.

5.3 Publications in scientific and trade journals

The partners will publish the project activities and results in different scientific and trade journals. Table 6 shows the publications that have been planned up to now. The target of publications for this second period (M19 to M36) is indicated in Table 4.

5.4 Presentations at national and international scientific conferences

The partners will present the project activities and results at national and international conferences. **¡Error! No se encuentra el origen de la referencia.** shows the presentations that have been planned up to now. The target of presentations at conferences for the second period (month 19 to 36) is indicated in Table 9.

5.5 Participation at exhibitions, fairs and workshops

Finally, partners will attend different events such as workshops, exhibitions and fairs. Table 8 shows the events that have been planned up to now. The target of participations at events for the second period (month 19 to 36) is indicated in Table 9.

5.6 Events organised by SIDERWIN partners

The consortium considers suitable to carry out a first SIDERWIN webinar (1-2 hours) at the end of 2019 in order to increase the impact of the dissemination activities and define potential synergies and collaboration opportunities. This tool allows to achieve and spread the SIDERWIN project to the largest possible concerned audience. Announcement of the SIDERWIN webinar will be done through all the available channels (web, Twitter, LinkedIn, EU/SPIRE tools, SIG, related Platforms and Associations, ...) to reach the maximum audience as possible and direct invitations to the client networks of the partners.

At the end of the project, a SIDERWIN workshop will be organized to show the achieved results and to give the opportunity to meet potential interested clients (either on public or private field), investors, and researchers. Therefore, target audience could include different players in the scientific, industrial, financial and social fields, as well as journalists. Announcement of the SIDERWIN workshop will be done through all the available channels (web, Twitter, LinkedIn, EU/SPIRE tools, SIG, related Platforms and Associations, etc.) to reach the maximum audience as possible. In order to increase the impact of the workshop, if feasible, it could be organized jointly with the workshops of other SPIRE projects or in connection with any other relevant event (for example a well-known conference or exhibition).

The material of the final workshop could also be the basis to prepare a final SIDERWIN webinar (1-2 hours), describing mainly the objectives, approach and main achieved results. As the other webinar and the workshop, the emission of the webinar would be announced through all the available channels mentioned above and direct invitations to the client networks of the partners.

6 Conclusions

This report corresponds to the second release of the “Master Dissemination and Communication plan and updates” for the SIDERWIN project, and describes the key elements of the strategy that have been defined by the consortium for achieving proper project dissemination:

1. **the objectives** (*why*, mission & vision) → to spread the SIDERWIN’s results to the largest possible concerned audience (at the national, European and international level) in order to promote the implementation and use of the project results (exploitation).
2. **the subjects** (*what* will be disseminated) → the SIDERWIN project itself and its results together with the all the techniques/methodologies used for the project technical development.
3. **the timing** (*when* dissemination will take place) → three main phases are considered: 1) initial phase (*Awareness*) focused on increasing the project visibility and mobilising stakeholders and multipliers; 2) intermediate phase (*Interest/Desire*) focused on informing and engaging to the target stakeholders when preliminary results become available; 3) final phase (*Action*) focused on encouraging further exploitation of the SIDERWIN outcomes (transfer to other industries, replicability...).
4. **the target audience** (to *whom* it will be disseminated) → Industrial Community, Scientific Community, Financial Community, Policy makers, “Internal” Community (SIDERWIN partners) and General public.
5. **the tools and channels** (*how* to reach the target audience) → website, social networks, channels offered by the EC and SPIRE, dissemination material distribution, SIDERWIN Special Interest Group creation and mainly the presentation of the SIDERWIN results at scientific & trade journals, conferences, workshops and trade fairs. The report provides a list of potential journals, conferences and fairs where the SIDERWIN results could be presented.
6. **the responsible** (*who* will perform the dissemination) → all partners of the consortium will contribute to the SIDERWIN dissemination during the whole project lifetime
7. **the rules** for performing the dissemination activities
8. **the way to evaluate and assess the impact** of the dissemination activities, defining KPIs for the first 18 months of the project and for month 36.

The report also includes a description of the actions carried out for the first 18 months of the project and the actions foreseen for the next 18 months of the project (M19-M36). The main results of the activities performed until the writing of this report are:

- SIDERWIN Logo and visual identity designed and used in dissemination material and tools
- SIDERWIN Website implemented: <https://www.siderwin-spire.eu/>
- SIDERWIN at social networks:
 - Twitter account: @SIDERWIN_Spire
 - LinkedIn profile: SIDERWIN SPIRE
- SIDERWIN Special Interest Group

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

- SIDERWIN flyer
- SIDERWIN general presentation
- SIDERWIN video

References

- [1] <https://ec.europa.eu/energy/en/topics/energy-strategy-and-energy-union/2030-energy-strategy>
- [2] <http://www.spire2030.eu/spire-vision/spire-roadmap>
- [3] https://ec.europa.eu/growth/sectors/raw-materials/industries/metals/steel_en
- [4] <https://www.european-aluminium.eu/>

Annex I: Technological platforms and Associations with involvement of SIDERWIN partners

Acronym	Axelera	
Name	AXELERA	
Web	https://www.axelera.org/	
Profile	Cluster	
Domain	Chemical and environmental sectors	
Scope	French	
Partners involved & Type of involvement	CFD – Numerics	Member

Acronym	CLUSTER TWEED	
Name	TWEED: Technology of Wallonia Energy, Environment and sustainable Development	
Web	http://clusters.wallonie.be/tweed-en/	
Profile	WALLONIA Cluster (Belgium)	
Domain	Industry – Energy topics	
Scope	Belgium	
Partners involved & Type of involvement	N-SIDE	Member

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Acronym	ESTEP	
Name	European Steel Technological Platform	
Web	https://www.estep.eu	
Profile	Technological Platform	
Domain	Steel	
Scope	European	
Partners involved & Type of involvement	AM	Member
	TECNALIA	Working groups (Automotive, Environment)

Acronym	EURELECTRIC	
Name	The Union of the Electricity Industry	
Web	http://www.eurelectric.org	
Profile	European electricity association	
Domain	Electricity industry	
Scope	Europe	
Partners involved & Type of involvement	EDF	Member

Acronym	EUROFER	
Name	The European Steel Association	
Web	http://www.eurofer.org/	
Profile	Technological Platform	
Domain	Steel	
Scope	European	
Partners involved & Type of involvement	AM	Member

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Acronym	European Aluminium	
Name	European Aluminium Association	
Web	https://www.european-aluminium.eu/	
Profile	Association representing the Aluminium industry in Europe	
Domain	Aluminium	
Scope	European	
Partners involved & Type of involvement	Mytilneos	Member of the Alumina and Primary Aluminium Producers

Acronym	FEBELIEC	
Name	Federation of Belgian Industrial Energy Consumers	
Web	http://www.febeliec.be/	
Profile	Belgian Business association	
Domain	Industry	
Scope	Belgium	
Partners involved & Type of involvement	N-SIDE	Member

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Acronym	FoF / EFFRA	
Name	FoF - Factories of the Future EFFRA - European Factories of the Future Research Association	
Web	https://ec.europa.eu/research/industrial_technologies/factories-of-the-future_en.html www.effra.eu	
Profile	FoF – PPP of H2020 EFFRA - Association representing the FoF PPP Private Side	
Domain	Advanced manufacturing	
Scope	European	
Partners involved & Type of involvement	TECNALIA	Member of the Advisory Group

Acronym	MANUFUTURE	
Name	Future Manufacturing Technologies	
Web	http://www.manufuture.org/	
Profile	European Technological platform	
Domain	Process Industry, advanced manufacturing	
Scope	European	
Partners involved & Type of involvement	TECNALIA	Member of the Steering Committee

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

Acronym	SPIRE	
Name	Sustainable Process Industry through Resource and Energy Efficiency	
Web	https://www.spire2030.eu/	
Profile	PPP of HORIZON 2020	
Domain	Process Industry	
Scope	European	
Partners involved & Type of involvement	AM	Member
	NTNU	Member
	N-SIDE	Member
	TECNALIA	Participant of the Steering Committee and all the working Groups (Feed, Process, Application, Waste)

Acronym	UFE	
Name	Union Française de l'Electricité	
Web	http://www.ufe-electricite.fr	
Profile	French electricity association	
Domain	Electricity industry	
Scope	France	
Partners involved & Type of involvement	EDF	Chairmans of the following Commissions: Marchés et Système Electrique; Electricité Renouvelable et Territoire; Prospective et Innovation

Annex II: Dissemination reports templates

This annex shows the templates and some examples of the Dissemination reports for the different types of activities.

Publications in magazines/journals		
Journal information	Name of the Magazine/Journal	
	Journal/Magazine type	(Scientific, Trade journal, General magazine...)
	Indexed	Yes/No
	Impact factor (and quartile)	i.e. 2.35 (Q2)
	Web	
Paper information	Paper title	
	Paper topics	
	Partner coordinating the paper	
	Other partners involved	
	Planned date	
	Status	
	Comments	
To be filled after publishing the paper	Bibliographic Citation	Authors/Title/Journal/Date
	DOI	i.e. 123456/abc.1234.1.123 (preferably as a HTML link)
	ISBN/ISSN	
	Release date	
	Date to be in "open access"	
	Link to the paper in "open access"	

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

National and International Conferences		
Event information	Name of event	
	Web	
	Organiser	
	When	
	Where	
	Scope	(National, European, World)
	Audience Profile	
	Target Audience Number	
Presentation information	Presentation title	
	Presentation topics	
	Presentation type	(paper/poster)
	Partner coordinating the activity	
	Other partners involved	
	Status	
	Comments	
To be filled after the conference	Bibliographic Citation	Authors/Title/Conference/Date
	DOI	i.e. 123456/abc.1234.1.123 (preferably as a HTML link)
	ISBN/ISSN	
	Link to the paper/poster, if feasible	
	Number of attendees	
	Picture of the event?	
	Any comment/feedback	

D8.2.1 Master Dissemination and Communication Plan and Updates by TECNALIA

Event (Fairs, exhibitions, workshops...)		
Event information	Name of event	
	Web	
	Organiser	
	When	
	Where	
	Scope	(National, European, World)
	Audience Profile	
	Target Audience Number	
Presentation information	Presentation type	(stand, poster, speech, ...)
	Presentation title	
	Presentation topics	
	Partner coordinating the activity	
	Other partners involved	
	Status	
	Comments	
To be filled after the event	Number of attendees	
	Picture of the event?	
	Any comment/feedback	

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Dissemination in the media (radio, newspaper, TV...)	
Media type	(radio, newspaper, TV...)
Name of the media	
Scope	(Local, national, European, World)
Audience Profile	
Date	
Presentation title	
Objective of the dissemination	
Partner coordinating the activity	
Other partners involved	
Any comment/feedback	

Other Dissemination activity	
Type of activity	
When	
Where	
Scope	(Local, national, European, World)
Audience Profile	
Presentation title	
Objective of the dissemination	
Partner coordinating the activity	
Other partners involved	
Comments	

Annex III: First SIDERWIN flyer

This annex depicts the first SIDERWIN flyer.

12 partners from 7 European countries (France, Belgium, Switzerland, Greece, Norway, Portugal and Spain) covering the entire value chain to develop the ULCOWIN technology: from the raw material (iron ore) to the demonstration (production of steel) through the development of the process and pilot.

Development of new methodologies for industrial CO₂-free steel production by electrowinning

General details
 Project Start Date: 1st October 2017
 Project End Date: 30th September 2022
 Project duration: 60 months
 Grant Agreement n.: 768788
 Subprogramme area: H2020-SPIRE-10-2017
www.siderwin-spire.eu

Contact Information
 Project coordinator:
 Hervé Lavelaine (herve.lavelaine@arcelormittal.com)
 ArcelorMittal Maizières Research S.A.
 France

The need

The atmospheric concentration of carbon dioxide has increased to levels unprecedented in at least the last 800,000 years. Steel production represents 4% of Europe(27) CO₂ emissions. A breakthrough is needed to reduce it and **electrolysis** is a good candidate to address **CO₂ mitigation in steel production**.

The objective

To develop a **breakthrough innovation** compared to the actual steel production process bringing together **steel making with electrochemical process**.

The main beneficiaries

- All the sectors of the **value chain**: minerals, steel, non-ferrous, power and engineering.
- Converging interests for **steel and aluminium industries**.

The approach

An **electrolytic** process, flexible enough to be supplied by **renewable energies**, will **transform iron oxides**, including those inside the byproducts from other metallurgies, **into steel plate** with a significant reduction of energy use. This process decomposes iron under mild conditions but at intense reaction rates naturally occurring iron oxides, such as hematite, into iron metal and oxygen gas.

$$\text{Fe}_2\text{O}_3 \rightarrow \text{Fe} + \text{O}_2$$

The benefits

- Reduction by 31% of the direct energy consumption
- Reduction of the direct GHG emissions by 87%
- Strengthening the global position of European process industry
- Network integration of steel production in European single market for economic growth
- Creation of jobs from new Businesses

In the SIDERWIN project five activities are combined to produce the necessary results to achieve the objectives:

- Science based knowledge to limit risks,
- Advanced simulation from detail 3D modelling of the cell to overall balances of the pilot,
- Design, engineering and operation of a pilot equipment at TRL5,
- Operation of a steel production pilot in a relevant environment at TRL6,
- Environmental evaluation and predictive economical study to evaluate the relevance in a context of low carbon and high share of RES.

Figure 18. First SIDERWIN flyer external pages (top) and internal pages (bottom)

Annex IV: First SIDERWIN video

This annex depicts some screenshots of the first SIDERWIN video.

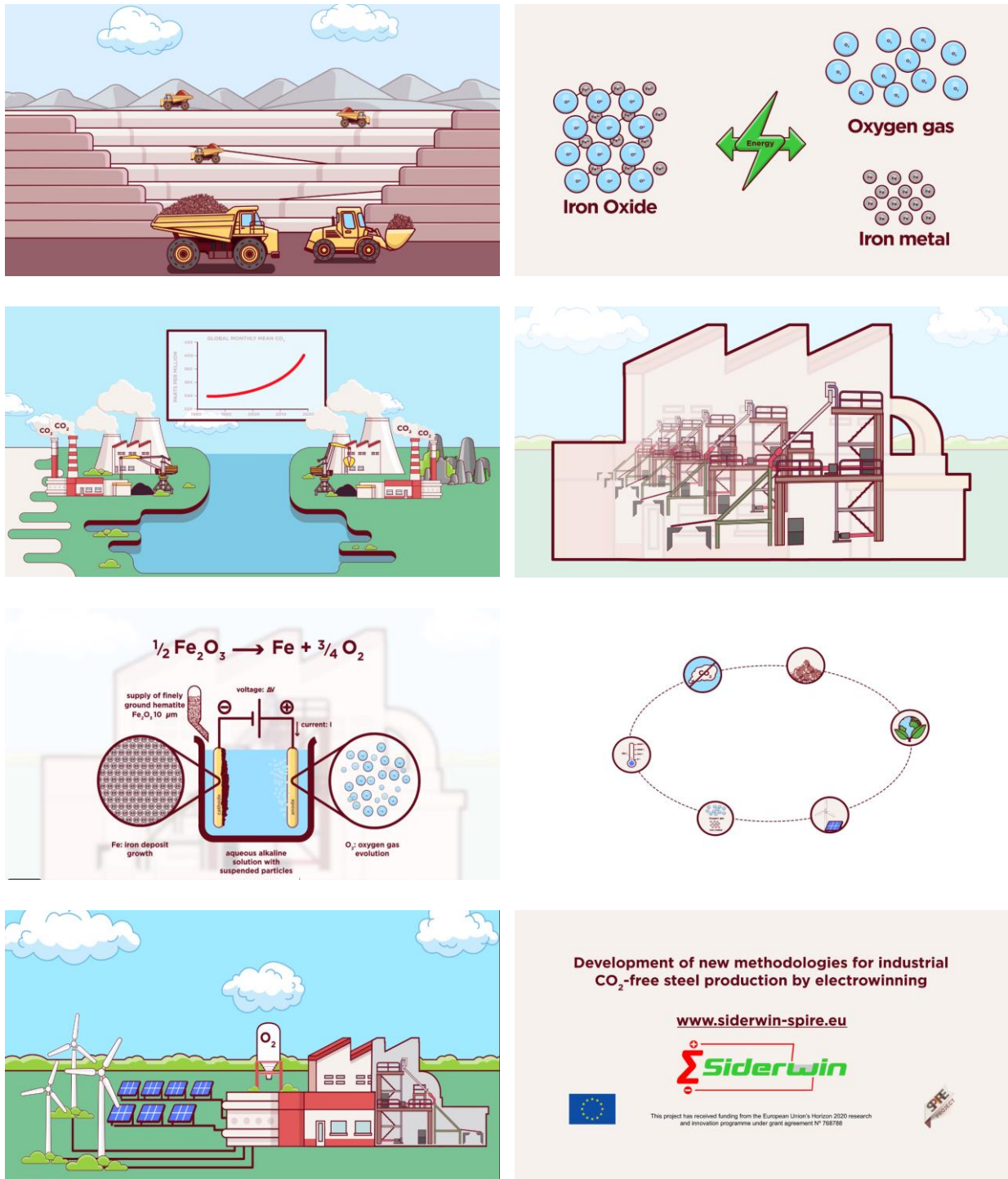


Figure 19. Some screenshots of first SIDERWIN video