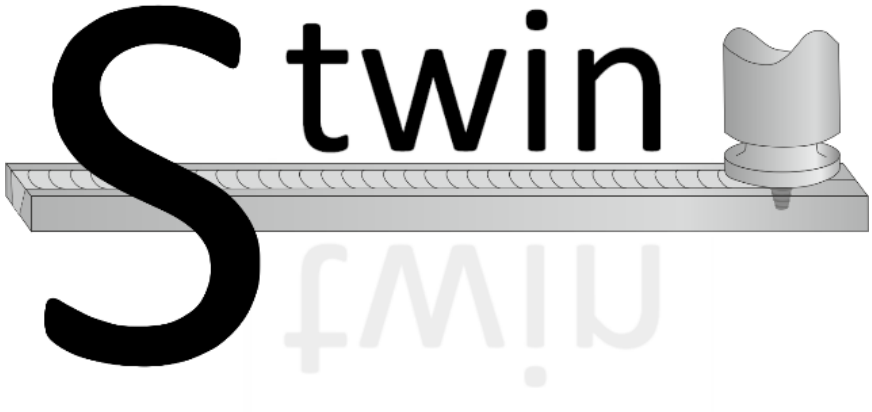
# Advanced, non-destructive technologies to improve friction stir welding of steel through artificial intelligence and smart digital twins (Acronym: STWIN)



Research Fund for Coal and Steel

Grant Agreement Number 101112504

## Deliverable 6.3: Dissemination plan – Second release

Project with funding from the European Union's Horizon 2020 research and innovation programme (Research Fund for Coal and Steel; RFCS) under grant agreement No. 101112504.

## Project & Deliverable Information Sheet

| | | | |
|---|---|---|---|
| **Grant Agreement No** | 101112504 | **Acronym** | STWIN |
| **Project Full Title** | Advanced, non-destructive technologies to improve friction stir welding of steel through artificial intelligence and smart digital twins | | |
| **Project Website** | https://stwin.eu/ | | |
| **Coordinator** | CIDAUT (Spain) | | |
| **Start Date** | 01/06/2023 | **Duration** | 45 months |
| **Deliverable** | 6.3 | **Work Package** | 6 |
| **Document Type** | Report | **Dissemination Level** | Public |
| **Lead beneficiary** | BWI | | |
| **Responsible author** | Koen Faes (BWI) | | |
| **Contractual due date** | 31/05/2026 | **Actual submission date** | 21/09/2026 |

## Document Control Sheet

| Deliverable Contributors | |
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| Revision Table | | |
|---|---|---|
| **Version** | **Date** | **Modified sections - Details** |
| 1 | 17/02/2026 | Initial draft |
| 2 | 26/02/2026 | Second draft |
| 3 | 03/03/2026 | Third draft |
| 4 | 27/08/2026 | Fourth draft |
| 5 | 21/09/2026 | Final version |

## Executive summary

The STWIN project (Grant Agreement No. 101112504), funded by the European Research Fund for Coal and Steel, aims to modernise friction stir welding (FSW) of steel through the integration of artificial intelligence, smart digital twins, and advanced non-destructive testing technologies. Deliverable 6.3 outlines the second release of the project's dissemination and communication plan, establishing a structured framework built on three core pillars: awareness, engagement, and adoption.

Strategic objectives and target audiences:

- Core focus: Promoting real-time quality monitoring, digital twin integration, advanced tooling, and sustainable manufacturing practices within the metal processing industry.
- Key stakeholders: Reaches industrial manufacturers (automotive, transport, and metal construction), academic and research organisations, regulatory bodies, standardisation committees and the general public.

Implementation channels and current status:

- Digital presence: The official public website (stwin.eu) has recorded 16909 visitors (as of September 2026), well above the target of 3500 by the end of the project, complemented by a secure Microsoft Teams environment for internal consortium collaboration.
- Events and conferences: Partners have delivered 13 presentations at major international events and fairs (including EUROMAT 2025 and the TWI Friction Welding Conference), with a final project workshop planned.
- Training and education: Seven educational and professional training sessions have engaged approximately 150 students and industry practitioners, with an expanded target of reaching 200 total trainees.
- Publications: Four trade magazine and technical articles have been published, supporting the broader goal of achieving at least 10 scientific and technical publications, including peer-reviewed open-access journal papers.
- Industrial synergies and standards: Active engagement with standardisation bodies has yielded technical inputs for ISO 25239 (FSW of aluminium alloys) and ISO 25116 (FSW of steel) via the Belgian Welding Institute Standards Antenna and IIW Commission III.

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# 1 Introduction

The STWIN project introduces an innovative approach to Friction Stir Welding (FSW) by integrating advanced automation, Non-Destructive Testing (NDT) and digital twin technologies. With significant implications for the metal construction, automotive and transport industries, the project seeks to address critical challenges such as productivity enhancement, quality monitoring and weldability of materials.

This update of the dissemination plan outlines a structured framework to effectively communicate the project's objectives, methodologies and outcomes to a broad spectrum of stakeholders. It emphasises strategic use of modern communication channels, targeted engagement activities and collaboration with key networks to ensure maximum impact and visibility.

STWIN considers dissemination, communication and exploitation activities as a tightly bound grid which brings the project results to the society and the market, through the appropriate channels and at the appropriate timing depending on the result maturity. At the start of the project, the communication strategy will focus on raising awareness among the industrial and academic community, and then as first project results will become available, dissemination of project outputs will start and will last until the end of the project.

As the project evolves, the outreach activities become more intense, and their orientation is turned from awareness creation to outcomes' validation and industrial approach. During the last part of the project, the project results will be available to a wider audience and considerations for follow-up cooperation of the consortium for further exploitation will be done.

When the project will be concluded, all partners will make use of the results according to their individual exploitation plans. A dissemination and communication plan to inform, engage, create awareness and to promote information about STWIN was developed in the first phase of the project. This intermediate update provides an evolution towards the final version, already including an evaluation of the results by the time of the submission of this report.

# 2 Dissemination and communication strategy

Deliverable D6.2 is referred to.

# 3 Methodology

Deliverable D6.2 is referred to.

# 4 Dissemination objectives

The objectives can be summarised as:

- Raise awareness: ensure a broad visibility of the project's goals and innovations.
- Promote knowledge sharing: disseminate findings through academic and industry channels.
- Encourage adoption: support the integration of FSW solutions into industrial practices.
- Foster collaboration: build partnerships with academia, industry, and policy bodies.
- Support policy and standards: advocate for policies that recognize and implement zero-defect manufacturing techniques.

# 5 Target audience

Deliverable D6.2 is referred to.

# 6 Key dissemination messages

STWIN aims to reshape the metal processing industry by advancing the FSW technology. The project focuses on:

1. Real-time quality monitoring:

- Implementing advanced sensor technologies and AI-powered models to detect potential defects in real-time, minimising waste and ensuring product quality.
- Digital Twin integration: Developing a digital twin of the FSW process to simulate and optimise production parameters, leading to increased efficiency and reduced downtime.

2. Process optimisation and innovation:

- Advanced tooling: Designing and manufacturing innovative FSW tools to enhance welding performance, reduce tool wear and expand the range of weldable materials.
- Dissimilar material joining: Exploring new techniques to join dissimilar materials, including high-strength steels, aluminium and cast iron, opening up new possibilities for product design and development.
- Process parameter optimisation: Fine-tuning FSW parameters to achieve optimal weld quality, productivity and energy efficiency.

3. Sustainable manufacturing:

- Reduced environmental impact: Minimising waste and energy consumption through real-time monitoring and process optimization.
- Enhanced product lifecycle: Producing high-quality, durable FSW joints that extend the lifespan of products.

- By combining cutting-edge technology, scientific research, and industry collaboration, STWIN is driving the future of FSW, enabling the production of high-performance, sustainable products.

# 7 Partner roles

In the following Table 1, the role of each partner (leader - L or contributor - C) for the various activities foreseen for each tool/channel is reported.

*TABLE 1: ROLES OF EACH PARTNER IN THE DESSIMINATION ACTIVITIES*

| Tool / channel | CIDAUT | BWI | ISEND | ELEMENT 6 | STIRTEC | STIRWELD | SSAB | HORSE | HIAB | GRANALU |
|---|---|---|---|---|---|---|---|---|---|---|
| **Public Website** | | | | | | | | | | |
| Initial setup | | L | | | | | | | | |
| Management | | L | | | | | | | | |
| Update | C | L | C | C | C | C | C | C | C | C |
| **Private online area** | | | | | | | | | | |
| Initial setup | L | | | | | | | | | |
| Management | L | | | | | | | | | |
| Update | L | C | C | C | C | C | C | C | C | C |
| **Visual Identity – Logo** | | | | | | | | | | |
| Initial Proposal | | L | | | | | | | | |
| Approval | C | L | C | C | C | C | C | C | C | C |
| **Visual Identity – Templates** | | | | | | | | | | |
| Initial Proposal | L | | | | | | | | | |
| Approval | L | C | C | C | C | C | C | C | C | C |
| **Social presence** | | | | | | | | | | |
| Initial Setup | | L | | | | | | | | |
| Management | | L | | | | | | | | |
| Constant update | L | C | C | C | C | C | C | C | C | C |
| **Publication acknowledgment and disclaimer sentence** | | | | | | | | | | |
| Definition | L | | | | | | | | | |
| **Events and conferences** | | | | | | | | | | |
| Conferences | C | L | C | C | C | C | | | | |
| Workshops | C | L | C | C | C | C | C | C | C | C |
| Fairs | | L | | | | | C | C | C | C |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Scientific publications** | | | | | | | | | | |
| Content production | C | L | C | C | C | C | | | | |
| Composition of texts | C | L | C | C | C | C | | | | |
| Submission to journals / Publishing | C | L | C | C | C | C | | | | |
| **Press releases** | | | | | | | | | | |
| Content production | | L | | | | | | | | |
| Publishing | | L | | | | | | | | |
| **Project meetings** | | | | | | | | | | |
| Organization | L | C | C | C | C | C | C | C | C | C |
| Coordination | L | | | | | | | | | |
| MoM | L | C | C | C | C | C | C | C | C | C |
| **Mailing list** | | | | | | | | | | |
| Initial setup | | L | | | | | | | | |
| Management | | L | | | | | | | | |
| Constant update | C | L | C | C | C | C | C | C | C | C |

# 8 Publication acknowledgement sentence

The following acknowledgement sentence was and shall be included in every publication related to the STWIN project, including the public website.

This project received funding from the European Union's Horizon 2020 research and innovation programme (Research Fund for Coal and Steel; RFCS), under grant agreement No. 101112504.

# 9 Performed dissemination actions

Dissemination and communication tools refer to the physical or digital materials used to present project content, while channels represent the media used to reach the target audiences. Although some resources serve both purposes, they are categorised into internal and external applications, as detailed in the Table 2 below.

*TABLE 2: Internal and external dissemination tools and channels*

| Tool / channel | Dissemination | | Commu-nication |
|---|---|---|---|
| | Internal | External | |
| Public Website | | X | X |
| Private online area | X | | |
| Visual Identity (logo, templates, …) | X | X | X |
| Social media presence | | X | X |
| Publication acknowledgment and disclaimer sentence | X | X | X |
| Public events (conferences, seminars, fairs, workshop, B2B matching and brokerage, …) | | X | |
| Scientific publications | | X | |
| Press release | | X | X |
| Project meetings | X | | |
| Email list | | X | X |

## 9.1 Project website

### *9.1.1 Public Website*

The initial phase of the dissemination and communication plan was successfully completed with the launch of the STWIN project website (https://stwin.eu/), which has been active since September 2023. The site serves as the primary hub for raising public awareness, detailing the project's objectives, consortium partners, and evolving results.

The website is structured to provide a clear overview of:

- Project goals and description: Strategic vision and technical scope.
- Consortium: Information on participating partners.
- Results: Repository for public deliverables and foreground information.
- Contacts: Direct lines for external inquiries.

A screenshot of the website is shown in Figure 1.

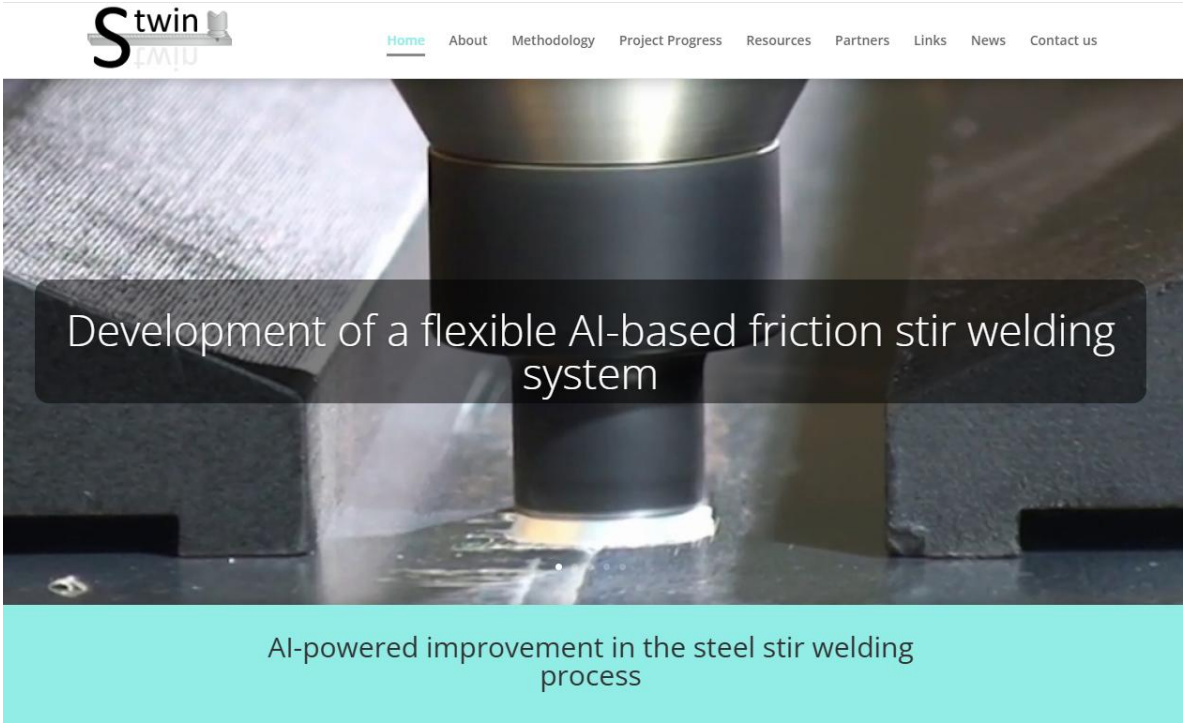



*FIGURE 1: Public website look & feel*

To ensure maximum reach, the project information and updates have also been shared at the individual websites of some consortium partners, linking their networks to the main STWIN website:

- STWIN webpage on Cidaut website: https://www.cidaut.es/en/proyecto/stwin-advanced-non-destructive-technologies-to-improve-steel-stir-welding-process-through-artificial-intelligence-and-smart-digital-twin
- STWIN webpage on BWI website: https://www.bil-ibs.be/en/STWIN
- STWIN webpage on StirWeld website: https://stirweld.com/en/events-and-news /

### *9.1.2 Private Area*

To facilitate internal collaboration, the STWIN consortium established a secure private area within a Microsoft Teams environment. This centralised platform manages all internal project workflows, including:

- Project and Gantt management: Tracking work packages, tasks and real-time milestones.
- Document management system: A hierarchical repository with role-based access for secure data sharing and version control.
- Integrated calendar: Synchronising all project events, deadlines and deliverables.

## 9.2 Project visual identity

### 9.2.1 Project logo

The STWIN visual identity was established through a collaborative selection process, with the final logo (see Figure 2) approved by all consortium partners. This official branding has been integrated into all project documentation and external communications to ensure a consistent global recognition.

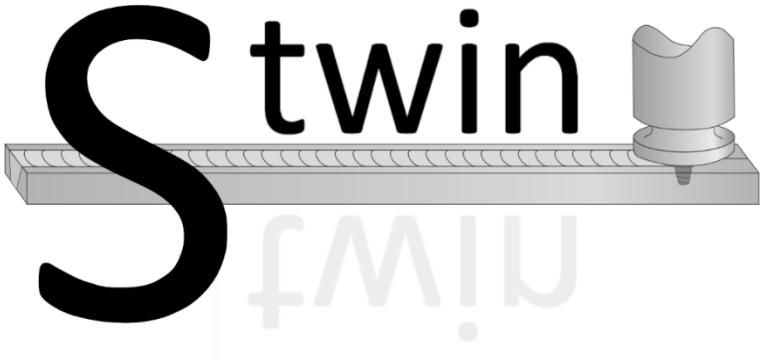



*FIGURE 2: STWIN official logo*

### 9.2.2 Project documentation templates

To maintain a unified professional image, a standardised suite of Microsoft Office templates was developed and deployed. These assets are hosted within the private area of the project website for partner access and include:

- Deliverables (Word): Standardised formatting for all technical reports.
- Minutes of meetings (Word): A consistent structure for recording consortium decisions and action items.
- Presentations (PowerPoint): A unified slide design for internal and external workshops.

Some template examples are shown below: Figure 3.




*FIGURE 3: STWIN TEMPLATES*

### 9.2.3 Promotional materials

We have finalised and deployed a comprehensive suite of promotional materials. Following best practices established in other European projects, a tri-fold leaflet, a roll-up banner and a project poster was designed. These documents have been recently updated to reflect the project's current duration and the final composition of the consortium. See Figure 4 and Figure 5 for the project leaflet and poster.




*FIGURE 4: PROJECT LEAFLET*




*FIGURE 5: STWIN POSTER*

## 9.3 Social presence

So far, we have focused on building STWIN's presence across various social platforms, with LinkedIn serving as the main hub. It was found that this is the most effective way to initiate conversations with both industry experts and the wider public. The social media strategy was designed from the outset to maximise the project's reach and social impact, ensuring that the updates are delivered to the right people.

Up to now, the following 16 social media activities have been performed, see Table 3.

TABLE 3. SOCIAL MEDIA ACTIVITY UNTIL SEPTEMBER 2026.

| Date | Subject | Partner | Link | Audience (reactions) |
|---|---|---|---|---|
| February 2024 | LinkedIn post about the participation of Granalu in STWIN | Granalu | Link | 49 |
| March 2024 | LinkedIn post about the participation of STIRWELD in STWIN | Stirweld | Link | 55 |
| April 2024 | LinkedIn post about the participation of Element 6 in STWIN | Element 6 | Link | 93 |
| 15/09/2024 | LinkedIn post about the participation of HORSE in the STWIN project | HORSE | Link | 221 |
| 27/02/2025 | LinkedIn post about the participation of Granalu in the STWIN meeting | Granalu | Link | 23 |
| 04/06/2025 | LinkedIn post about the participation of Element 6 in the FSW Tech Showcase on June 4 in Sweden | Element 6 | Link | 60 |
| 25/03/2025 | LinkedIn post about the participation of Element 6 in TMS 2025 conference | Element 6 | Link | 15 |
| 13/06/2025 | LinkedIn post about the participation of Element 6 in the FSWP Conference 2025 | Element 6 | Link | 33 |
| 16/07/2025 | LinkedIn post about the participation of Element 6 in the China Diecasting Fair, 2025 | Element 6 | Link | 18 |
| 11/09/2025 | LinkedIn post about the publication "Supermaterial delivering a new era in welding innovation" | Element 6 | Link | 18 |
| 23/09/2025 | LinkedIn post about the participation of Granalu in the STWIN consortium meeting | Element 6 | Link | 28 |
| 07/10/2025 | LinkedIn post about Cidaut participation in EUROMAT2025, using CIDAUT's social media channels | CIDAUT | Link | 29 |

| | | | | |
|---|---|---|---|---|
| 07/10/2025 | X post about Cidaut participation in EUROMAT2025, using CIDAUT's social media channels | CIDAUT | Link | 85 |
| 07/10/2025 | Instagram post about Cidaut participation in EUROMAT2025, using CIDAUT's social media channels | CIDAUT | Link | 12 |
| 08/04/2026 | LinkedIn post about STWIN project in NODDO – The regional Castille and León Technology Centres Association | External | Link | 11 |
| 19/06/2026 | LinkedIn post about the participation of Cidaut in EPoSS Annual Forum 2026 | CIDAUT | Link | 40 |

## 9.4 Conferences and events

Throughout the project, the findings of STWIN have been shared with both the scientific and industrial communities (Figure 6). By using traditional channels, such as conferences, seminars, trade fairs and workshops, as well as various online events, a wide range of professionals were reached. Engaging with industry and research organisations through B2B matchmaking and brokerage events has also proven to be an effective way to initiate meaningful discussions and keep stakeholders updated on the project progress.

To date, the following actions (Table 4) were performed.

*TABLE 4. STWIN PARTNERS ATTENDANCE TO CONFERENCES AND EVENTS.*

| Date | Subject | Partners involved | Type | Link | Audience |
|---|---|---|---|---|---|
| 15-19/04/2024 | Discussions and networking with potentially interested companies at the Fair "Schweiss und Schneiden", Essen, Germany | BWI | Fair | Link | ±10 |
| 25/11/2024 | Friction stir welding of high strength steels S700 & S960. Colloquium of the FSWP Committee. Rennes, France. | BWI, Stirweld, SSAB, HIAB, Element 6 | Colloquium | | ±40 |
| 04/12/2024 | Presentation of the project at the meeting of the UGent Fracture Group | BWI | Seminar | | 15-20 |
| 25/03/2025 | Simultaneous Double-Sided Friction Stir Welding (SDS-FSW) of Steel.<br>The Minerals, Metals & Materials Society (TMS) 2025, Las Vegas, USA | Element6, BWI | Conference | Link | ±80 |
| 14/05/2025 | Advanced, non-destructive technologies to improve steel friction stir welding process through artificial intelligence and smart digital twin (STWIN). Klusterkonferens, Gothenburg, Sweden | HIAB, SSAB | Conference | Link | ±20 |

| | | | | | |
|---|---|---|---|---|---|
| 04/06/2025 | FSW in high temperature materials. Trollhattan, Sweden | Element6, HIAB, SSAB | Seminar | | Unknown |
| 11-13/06/2025 | High-speed FSW in steel and aluminium | Element6 | Conference | Link | ±80 |
| 25-28/08/2025 | CONSOLDA and CBMAdi Brazilian Congress on Welding and Additive Manufacturing. Joinville, Brazil | BWI | Congress | Link | ±80 |
| 16/09/2025 | Experimental and simulation study of the mechanical behaviour of HSS processed by FSW.<br>EUROMAT Conference 2025, Granada, Spain. | CID, BWI, HIAB, SSAB | Conference | Link | ±50 |
| 30/11/2025 | Aplicabilidad de la Inteligencia Artificial para el control de calidad en el proceso de soldadura por fricción-agitación. The 24th Manufacturing Congress. | CID | Congress | Link | ±40 |
| 19-22/05/2026 | Presentation at the Friction Welding Conference : "The Sequential Double-Sided Friction Stir Welding of Thick Gauge Steel", TWI, Cambridge, UK | Element6, BWI | Conference | Link | ±150 |
| 20/05/2026 | Presentation at the BWI Welding Days: "Real-time quality monitoring of welding processes", Antwerp, Belgium | BWI | Conference | Link | ±100 |
| 16-19/06/2026 | Presentation at the EPoSS Annual Forum 2026 – An integrated framework for defect detection in FSW using Machine Learning and multimodal NDT data fusion, Braga, Portugal | CID | Conference | Link | ±130 |




*FIGURE 6. EXAMPLES OF STWIN DISSEMINATION ACTIONS IN CONFERENCES. LEFT: EUROMAT CONFERENCE 2025. RIGHT: EPOSS ANNUAL FORUM 2026.*

## 9.5 Training and professional development

Beyond industry and research communities, the STWIN project's findings were shared through a variety of educational and professional development programmes. By integrating

the results into both academic curricula and vocational training, we have ensured that our technical advancements benefit the next generation of engineers as well as professionals already active in the workforce. These interactions have allowed for a valuable exchange of knowledge between the project team, students and experienced industry practitioners.

To date, the following actions were performed (Table 5):

TABLE 5. PROFESSIONAL TRAINING INITIATIVES.

| Date | Subject | Partners involved | Type | Audience |
|---|---|---|---|---|
| 19/12/2023 | Internal webinar at HIAB for all R&D-departments | HIAB | Training webinar | ±10 |
| 21/12/2023 | Internal webinar at HIAB for all supplier development-departments in Europa | HIAB | Training webinar | 12 |
| 11/12/2024 | IWE-course: Course "from idea to crane", new developments in relation to welding processes (FSW), Swerim (Sweden) | HIAB | Training course | ±15 |
| 12/12/2024 | Internal webinar at HIAB for all R&D-departments | HIAB | Training webinar | ±35 |
| 21/12/2024 | Internal webinar at HIAB for all supplier development-departments in Europa | HIAB | Webinar | 31 |
| 09/09/2025 | Course @ KTH: "structural mechanics - Fatigue properties of welds of industrial components" new developments in relation to welding processes (FSW) | HIAB | Training course | ±10 |
| 04/12/2025 | Presentation of the STWIN project for PhD students at UGent university, Ghent, Belgium | BWI | Seminar | 22 |
| 02/02/2026 | Presentation of the STWIN project for the International Welding Specialist students, BWI, Ghent, Belgium | BWI | Student course & lab visit | ±15 |

## 9.6 Scientific publications

Since the project began, the STWIN consortium has been dedicated to bring the research results closer to the public. We have adhered to the Open Access guidelines set by the H2020 Work Programme, ensuring that our findings are transparent and accessible. All partners, particularly the research centres within the consortium, have actively contributed to the dissemination of the project outcomes. To maximise visibility and maintain the highest standards for the scientific publications, journals and publishing houses were favoured that offer Open Access options.

To date, we have performed the following actions (Table 6 and example in Figure 7):

TABLE 6. SUMMARY OF OPEN ACCESS PUBLICATIONS.

| Date | Subject | Partners involved | Type | Link | Audience |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 08/05/2025 | STWIN – Artifiële intelligentie toegepast voor de optimalisatie van lasprocessen – Welding Special, Metallerie | BWI, Element6 | Magazine publication | Link | 27090 |
| 08/05/2025 | STWIN – L'intelligence artificielle applique à l'optimisation des processus de soudage. Métallerie, Spécial Soudage (Welding Special). | BWI, Element6 | Magazine publication | Link | 27090 |
| 11/09/2025 | Supermaterial delivering a new era in welding innovation. Welding World Magazine. | Element6 | Magazine publication | Link | 175000 |
| 29/10/2025 | Aplicabilidad de la inteligencia artificial para el control de calidad en el proceso de soldadura por fricción-agitación | CIDAUT | Conference publication | Link | Unknown |


TECHNOLOGY IN FOCUS

THE SUPERMATERIAL DELIVERING A NEW ERA IN WELDING INNOVATION

TECHNOLOGY IN FOCUS

TECHNOLOGY IN FOCUS

FIGURE 7. STWIN ARTICLE IN WELDING WORLD MAGAZINE

## 9.7 Press releases and newsletters

Throughout the project, press releases and newsletters were used as tools to communicate the STWIN's progress to both the general public and relevant institutions. These updates were effective in raising awareness of the achievements and keeping the target audience engaged. The initial press release successfully established the project's objectives and work plan, while subsequent releases and regular newsletters have provided clear insights into the ongoing progress.

To date, the following actions (Table 7) were performed:

TABLE 7. PRESS RELEASES RELATED TOTALLY OR PARTIALLY WITH STWIN.

| Date | Subject | Partners involved | Type | Link | Audience |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 23/10/2023 | STWIN project – Development of cutting-edge Friction Stir Welding systems supported by real-time monitoring techniques and Artificial Intelligence | CID | Newsletter | Link | 1100 |
| 11/03/2025 | Artificial Intelligence applied to the optimisation of welding processes | CID | Newsletter | Link | 1100 |
| 08/04/2026 | STWIN integra soldadura avanzada, ensayos no destructivos e IA para la industria del acero | CID | Press release | Link | 2307 |
| 21/07/2026 | Shaping the future of smart systems: CIDAUT showcases BERTHA and STWIN at EPoSS Annual Forum | CID | Newsletter | Link | ~1100 |

## 9.8 Networking and industrial synergies

Project meetings, held both in person and online, have served as the most vital channel for communication throughout the project. These sessions were used not only for internal coordination between partners but also as a key platform for engaging with external stakeholders, industry experts and advisory boards. To ensure clarity and accountability, Minutes of Meetings (MoM) were consistently produced for every session using the standardised template and approved by all attendees.

To date, following actions were performed:

- Internal coordination: Organising regular consortium meetings to manage work packages, technical progress and project milestones.
- External engagement: Hosting and participating in meetings with external stakeholders to share project updates and gather industry feedback, as per Table 8.

*TABLE 8. INITIATIVES RELATED TO THE ENGAGEMENT WITH EXTERNAL STAKEHOLDERS.*

| **Date** | **Subject** | **Partners involved** |
|---|---|---|
| 08/11/2023 | Meeting with the company Ariane Group, in the frame of the “Future Techno Days”. | Tricylon, BWI |
| 2024 | Multiple contacts with the steel manufacturer SSAB. Resulted in the later joining of SSAB into the project | HIAB, CIDAUT |
| 14/11/2024 | Meeting with manufacturer of parallel kinematic robots (Cognibotics - https://www.cognibotics.com/en) | BWI, CIDAUT |
| 15/11/2024 | Meeting with Fraunhofer IWU to present STWIN technology and explore transferability of the FSW technologies | CIDAUT |
| 12/12/2024 | STWIN project presentation at the RFCS TG meeting | CIDAUT |
| 12-17/07/2026 | Technical discussions and networking at the 79th Annual Assembly and International Conference - IIW Commission IIIB (Friction-based processes) | BWI |

| | | |
|---|---|---|
| 11/09/2026 | Presentation of the project results to the company "Joop van Zanten" (https://joopvanzanten.nl/) (consultancy company): results on welding of S960QL, 6 mm | SSAB |

### 9.9 Contribution to standards

We have contributed to the evolution of industrial standards in the field of FSW. By providing recommendations to relevant standardisation groups, we have shared insights and data derived from the STWIN project to guide the updating of existing standards and the development of new standards for friction stir welding of steel. This work was facilitated through the Standards Antenna of the Belgian Welding Institute. The role of the Standards Antenna is to represent the industry within ISO and CEN committees, ensuring that practical, real-world input is used to update and refine international standards.

BWI is also member of the IIW Commission III (Resistance Welding, Solid-State Welding and Allied Joining Processes). Since 1950, IIW has developed drafts and concepts for ISO welding standards.

To date, the following actions were performed:

- 18/11/2025: Reviewing and updating of **ISO 25239** (FSW of aluminium alloys): BWI provided technical input to improve the standard for FSW of aluminium, based directly on the experiences gained during the STWIN project.
- 04/03/2026: Contributing to **ISO 25116** (FSW of steel): BWI is member of IIW commission IIIB (solid state welding). BWI has been active within IIW Commission III (WG B6) to support this standardisation work.
- 12-17/07/2026: Technical discussions and voting for **ISO 25116** at the IIW 79th Annual Assembly - IIW Commission IIIB (Friction-based processes).

## 10 Planned dissemination activities and targets

The partners will continue to disseminate the findings of STWIN to the scientific and industrial communities through traditional channels, including press releases, peer-reviewed publications, specialised websites and participating in scientific conferences.

To monitor and evaluate the effectiveness of dissemination and communication activities within STWIN, data will be collected and analysed with the contribution of all project partners. The list below specifies the planned activities together with the targets.

### 10.1 Project website

Description:

- Digital platform dedicated to the project, providing information and updates to its stakeholders, collaborators and the general public.
- Central hub for all project-related activities, fostering transparency, collaboration and engagement.

Targets:

- No specific targets for website traffic were defined in the Grant Agreement.
- Aiming for 3500 website visitors by the end of the project to measure the project's digital reach and engagement.

Status:

- Current amount of visitors: 16909 (status: as of September 2026).

Actions:

- STWIN website updates: 2 updates are scheduled in 2026/2027 to reflect recent consortium changes and incorporate the latest project results.
- BWI and CIDAUT webpage alignment: The STWIN page on the Belgian Welding Institute and CIDAUT websites will be updated in parallel to ensure consistency.

Web metrics are used provided by Google Analytics, showing the visitors' engagement, such as:

- amount of visits,
- amount of unique visitors,
- time spent per visit,
- page views per visit,
- engagement level (downloading, sharing, …),
- countries.

Final metrics will be reported in the final release of the dissemination plan, statistics for the period January 2024 – September 2026 are shown in Figure 8.

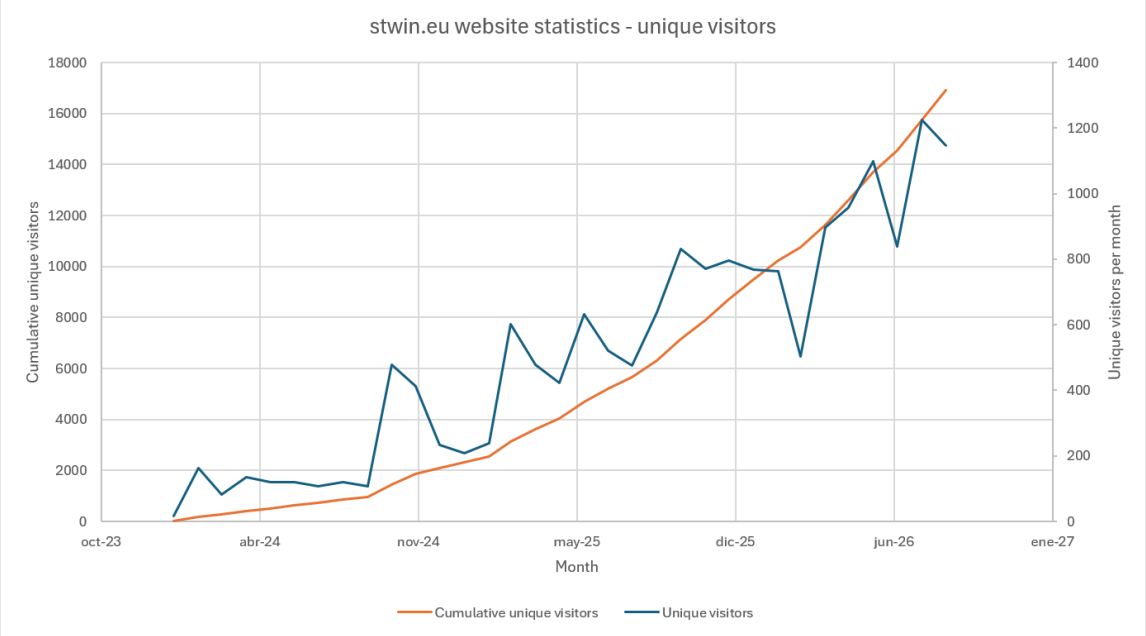



*FIGURE 8. UNIQUE VISITORS TO STWIN.EU SITE (MONTHLY AND CUMULATIVE VALUES).*

## 10.2 Project visual identity

Description:

- Collection of visual elements that represent and communicate the project's brand.
- Includes the logo, colour palette, typography and overall design style.

Targets:

- No specific branding or promotional targets were defined in the Grant Agreement.
- Creation of a visual identity (logo, document templates, …).
- Creation of a leaflet, a roll-up banner and a project poster.

Status:

- The targets have been accomplished; a brochure, poster and a roll-up was created.

Actions:

- No further actions are currently foreseen; however, should specific circumstances require adjustments to the project's style, appropriate actions will be taken to update the visual identity accordingly.

## 10.3 Social presence

Description:

- Posts on social media (e.g. LinkedIn) and interactions.

Targets:

- No specific target for the total number of social media posts was defined in the Grant Agreement.
- Target of 10 social media posts to maintain consistent project visibility and engagement throughout the project duration.

Status:

- Total amount of social media posts during project: 16.
- Total amount of unique social media impressions: 790

Actions:

- Post updates showcasing project progress, visuals and event participation.
- No additional posts strictly needed to hit the target of 10, though 3 more are scheduled in 2026/2027.

### 10.4 Conferences and events

Description:

- Public events (conferences, seminars, fairs, workshop, B2B matching and brokerage, …).

Targets:

- At least 5 presentations at international conferences and fairs.
- One workshop during the project.
- Metrics: number of participating people (no targets specified in the proposal).

Status:

- Amount of presentations at international conferences and fairs: 13
- Amount of workshops organised: 0
- Amount of attendees: ±800

Actions:

- The list of events the consortium plans to attend or considers attending is listed below (Table 9)
- Organisation (or co-organisation) of a workshop at the end of the project.

*TABLE 9: Planned conferences and workshops*

| Date | Event | Location | Type | Partner(s) |
|---|---|---|---|---|
| Febr. 2027 | YPIC 2026 - Young Professionals International Conference | Online | Conference | BWI |
| 10-12/02/2027 | ARCI 2027 (7th IFSA Winter Conference | Geneva, Switzerland | International Academic / | |

| | | | | |
|---|---|---|---|---|
| | on Automation, Robotics & Communications for Industry 4.0/5.0/6.0) | | Engineering Conference | |
| March 2027 | Erfahrungsaustausch Reibschweißen (Experience exchange on friction welding) | Magdeburg, Germany | Symposium | BWI |
| 9-10/03/2027 | Materials Week Europe 2027 | Amsterdam, Netherlands | Industrial Trade Exhibition & Conference | |
| 14-18/03/2027 | TMS 2027 – Friction Stir Welding and Processing XIV | Orlando World Center Marriott, Orlando, Florida, USA | Academic / Technical Conference Symposium | E6 |
| 17-18/03/2027 | WTK 2027 (25th Materials Engineering Colloquium) | Chemnitz, Germany | Academic Colloquium / Engineering Symposium | |
| 22-24/03/2027 | Materiais 2027 (XXIII SPMateriais Congress) | Porto, Portugal | Biennial Scientific / Materials Society Congress | CIDAUT |

### 10.5 Training and professional development

Description:

- Education: Findings were integrated into academic and vocational programs to train both students and the current workforce.
- Collaborative exchange: The project facilitated direct knowledge sharing between researchers, students and industry experts.

Targets:

- Establishing a target of 50 students to be directly involved in or trained through project-related educational activities.

Status:

- Amount of trainings organised: 8
- Amount of contacts with students and collaborators: ±150

Actions:

- Increase the amount of workshops to surpass the already performed 8 sessions and engage a broader audience.

- A higher volume of trainees from diverse industrial sectors and academic institutions, targeting a total amount of reached people of 200.

### 10.6 Scientific publications

Description:

- Peer-reviewed and magazine publications.
- Publications in conference proceedings.

Targets:

- Metrics: number of papers produced and submitted.
- At least 10 publications

Status:

- Amount of scientific/technical publications: 1
- Amount of magazine publications: 3

Actions:

- Target leading journals and conferences in welding, robotics and manufacturing sectors.
- Produce technical white papers, case studies and open-access articles to promote the research findings.
- Amount of publications until the end of the project: 10

In the Table 10 below, the related scientific journals have been identified; links are provided for each of them.

*TABLE 10: Related scientific journals*

| Journal | Link |
|---|---|
| Journal of Applied Sciences - MDPI | www.mdpi.com/journal/applsci/special_issues/C5P956552Z |
| Science and Technology of Welding and Joining | https://www.tandfonline.com/toc/ystw20/current |
| Welding in the World | https://link.springer.com/journal/4019 |
| Welding and Cutting | http://www.welding-and-cutting.info/ |
| Welding International | https://www.tandfonline.com/journals/twld20 |
| Journal of Manufacturing and Materials Processing | https://www.mdpi.com/journal/jmmp |
| Journal of Advanced Joining Processes | https://www.sciencedirect.com/journal/journal-of-advanced-joining-processes |
| Advances in Materials Science and Engineering | https://www.hindawi.com/journals/amse/ |
| International Journal of Engineering Science and Innovative Technology | https://www.ijesit.com/ |
| Journal of Welding and Joining | https://e-jwj.org/ |

| | |
|---|---|
| Engineering Applications of Artificial Intelligence | https://www.sciencedirect.com/journal/engineering-applications-of-artificial-intelligence |
| Journal of Advanced Manufacturing Technology | https://link.springer.com/journal/170 |
| npj Computational Materials | https://www.nature.com/npjcompumats/ |
| Magazines | Metallerie<br>Lastechniek<br>Weldfab Tech |

## 10.7 Press releases and newsletters

Description:

- Communication tool used to keep stakeholders informed about the progress, milestones and updates of the project.
- Publicly available press releases.
- Press releases on the consortium members' websites.

Targets:

- No specific numerical targets for press releases or newsletters were defined in the Grant Agreement.
- Total amount of newsletters/press releases during the project: 5.

Status:

- Amount of newsletters published during the project: 3.
- Amount of press releases published during the project: 1

Actions:

- Publish 2 additional newsletters regularly to share milestones, results and upcoming activities.
- Produce technical white papers, case studies and open-access articles to promote research findings.
- Amount of press releases until the end of the project: 2.

## 10.8 Networking and industrial synergies

Description:

- Meetings between partners for internal coordination and external engagement with stakeholders and experts.
- Collaboration with other funded projects.
- Contacts with steel manufacturers.
- Conducted through a mix of in-person and online sessions to ensure continuous project momentum.

Targets:

- Engagement with 3 EU-funded projects
- Engagement with 2 steel manufacturer to maximise the project's industrial relevance and synergy.

Status:

- External engagement: Held bilateral networking meetings with key external industrial players and research institutions, including Ariane Group (Future Techno Days), Cognibotics (robotics manufacturer), consultancy company 'Joop Van Zanten' and Fraunhofer IWU (FSW technology transferability).
- Institutional and cluster representation: Presented project technical progress at the RFCS Technical Group meeting and engaged in technical discussions at the IIW Commission IIIB (friction-based processes).
- Project synergies: Established cross-project collaboration with the EU-funded RESURGAM project via consortium partner StirWeld.

Actions:

- Partner with 2 other EU-funded projects and industry associations to increase the dissemination efforts.
- Establish contacts with 1 additional steel manufacturer.
- Contacts via the project partners' networks.

### 10.9 Contributions to standards

Description:

- Standardisation activities: Use of STWIN data to provide technical recommendations to ISO and CEN committees through the BWI Standards Antenna and IIW Commission III.

Targets:

- Participation in 3 standardisation bodies meetings during the project.

Status:

- 3 standardisation body meetings have been attended.
- Provided technical input for ISO 25239 (FSW of aluminium alloys), based on STWIN project experiences.
- Provided technical input for ISO 25116 by the ongoing participation in IIW Commission III (WG B6) to publish the first international standard for FSW of steel.

Actions:

- Drafting technical annexes: Detailed data packages from the project's final results to support the future reviewing and updating of ISO 25116.
- Continued committee representation: Maintain active membership in IIW and ISO working groups to advocate for the project's welding parameters as industry benchmarks.

## 11 Conclusion

The STWIN dissemination plan serves as an essential framework to ensure the project's innovations effectively reach and influence their intended audiences. By utilising a wide range of digital and physical communication tools, including standardised branding,

educational training and scientific publications, the consortium has established a strong foundation for the project visibility.

Significant progress has already been made through the launch of the public website, active engagement at international conferences and contributions to global standardisation efforts through the BWI Standards Antenna. The project will continue to use these channels to create industrial collaboration and support the transition toward zero-defect manufacturing, with the key channels, target groups, and core goals summarized in the overview below. Ultimately, these efforts are designed to not only elevate the profile of the STWIN project but also to facilitate the long-term adoption of the FSW technologies within the metal processing industry.

TABLE 11. D&C KPI SUMMARY - STATUS AS OF SEPTEMBER 2026.

| Dissemination channel / Tool | Target / Promised (KPIs) | Performed / Already done | To be done / Planned |
|---|---|---|---|
| **Project website** | • 3500 visitors by end of the project<br>• Active web presence and regular updates | • Public website active since Sept 2023 (stwin.eu)<br>• Partner pages setup on CIDAUT, BWI and StirWeld sites<br>• 16909 visitors recorded in Sept. 2026. | • 2 website updates in 2026/2027 to reflect results and consortium changes<br>• Parallel updates on BWI and CIDAUT sites<br>• Target accomplished |
| **Project visual identity & materials** | • Complete visual identity (logo, document templates)<br>• Promotional materials (leaflet, roll-up banner, poster) | • Visual identity & logo approved and produced.<br>• Office templates deployed (Word, PPT, MoM)<br>• Tri-fold leaflet, banner, and poster completed and updated | • Target fully accomplished<br>• Minor visual updates if specific project adjustments require them |
| **Social presence** | • Target of 10 social media posts throughout project | • 16 posts published across LinkedIn, X and Instagram<br>• Achieved 790 unique impressions | • No additional posts strictly needed to hit the target of 10, though 3 more are scheduled in 2026/2027 |
| **Conferences, fairs & events** | • At least 5 presentations at international conferences/fairs<br>• 1 final workshop | • 13 presentations/ discussions completed (e.g., Schweissen und Schneiden, TMS 2025, EUROMAT 2025, TWI Friction Welding Conference, BWI Welding Days, EPoSS Annual Forum 2026)<br>• No workshops completed so far | • Attend planned conferences (e.g., YPIC 2027, Erfahrungsaustausch Reibschweißen 2027)<br>• Organise 1 final project workshop at the end of the project |

| | | | |
|---|---|---|---|
| **Training & professional development** | • Target of 50 students involved/trained | • 8 sessions/trainings conducted (HIAB internal webinars, Swerim IWE course, KTH course, UGent PhD seminar, BWI IWS course & lab visit)<br>• Reached ~150 attendees/students | • Increase training sessions to surpass current total<br>• Target total reach of 200 trainees/students across academia and industry |
| **Scientific & technical publications** | • At least 10 publications (journals, conference proceedings, magazines) | • 3 trade magazine articles published (2 in Metallerie / Welding Special, 1 article in Welding World Association Magazine)<br>• 1 technical paper published<br>• 0 peer-reviewed journal papers published to date | • Publish technical white papers, case studies, and open-access journal articles<br>• Target key journals (e.g., Science and Technology of Welding and Joining, Welding in the World) to achieve 10 publications |
| **Press releases & newsletters** | • 5 newsletters and press releases during project | • 3 newsletters published (Oct 2023, Mar 2025, Jul 2026 by CIDAUT)<br>• 1 press release | • Publish 2 additional newsletters regularly<br>• Produce 2 press releases by project completion |
| **Networking & industrial synergies** | • Engagement with 3 EU-funded projects<br>• Engagement with 2 steel manufacturers | • Networking activities done (SSAB, Ariane Group, Cognibotics, Fraunhofer IWU, RFCS TG meeting, IIW Commission IIIB)<br>• Synergies with RESURGAM via StirWeld | • Formalize engagement with 2 EU-funded projects<br>• Establish direct contacts/synergies with 1 additional steel manufacturer |
| **Contributions to standards** | • Participation in 3 standardisation body meetings | • 3 standardisation meetings attended<br>• Inputs provided for ISO 25239 (FSW of Al)<br>• Inputs provided for ISO 25116 (FSW of steel) via IIW Commission III WG B6 & BWI Standards Antenna | • Draft detailed technical data packages from final STWIN results to support future ISO 25116 reviews<br>• Maintain active membership in IIW/ISO working groups to advocate for STWIN welding parameters as industry standards |