**HORIZON EUROPE PROGRAMME**
HORIZON-CL5-2023-D3-02-11

GA No. 101147275

# Silicon solar cells with Low Environmental footprint and Advanced interfaces


## SiLEAN - Deliverable report

## D7.1 – Project Identity (including project website)

Funded by
the European Union

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**Project Scientific Abstract**

The SiLEAN project deals with the development of advanced innovations to tackle the major drawbacks of silicon heterojunction solar cell technology, namely the high energy and material demand for Si wafer manufacturing, limited current generation, and the consumption of scarce materials like silver, bismuth and indium. Within the scope of the project, we will directly grow the wafers from the gas phase with low temperature processes, apply alternative passivation concepts that show higher optical transparency, develop indium-free contact layers and apply silver and bismuth-free metallization with all-in-one cell interconnection and encapsulation. The project aims to achieve >25.5% solar cell efficiency and >23.5% module efficiency with 50% lower costs for Si wafers and contacting, as well as up to 75% lower carbon footprint. All processes applied allow upscaling to larger sizes as well as high manufacturing throughput. Eventually, the developments of SiLEAN will pave the way for a new, lean, generation of heterojunction solar cell technology that will both increment the energy conversion efficiency and unlock production at terawatt-scale.

# Summary

To meet the growing energy demand, reduce greenhouse gas emissions, and lower electricity costs, highly efficient and cost-effective photovoltaic (PV) technologies with low carbon footprints are essential. In SiLEAN key challenges will be addressed such as the high energy and material requirements for Si wafer manufacturing, limited current generation, and the use of scarce materials like silver, bismuth, and indium.
In the project, a lean process chain will be developed for the next generation of silicon heterojunction (SHJ) solar cells. Our strategy involves utilizing epitaxially-grown wafers that require less energy, developing alternatives to the highly absorptive hydrogenated amorphous silicon for passivation and carrier-selective contacts, creating indium-free contact layers and silver-free metallization concepts, and implementing bismuth-free interconnection methods.

This deliverable report outlines the corporate identity of SiLEAN, which includes the following key elements:

- The project logo and colour scheme.
- Templates for documents, reports, and PowerPoint presentations to be utilized by the consortium.
- Biannual electronic newsletters.
- The project website.
- Project LinkedIn account.

These templates are designed to support project presentations, deliverables, meeting documentation, and reporting needs. A dedicated website has been established for SiLEAN, serving as the primary platform for showcasing project results, engaging a wide audience, disseminating key information through news updates, and providing a contact point for third parties interested in the project's progress and outcomes.

This deliverable emphasizes the importance of creating a cohesive corporate identity for the project, detailing the specific purposes of each identity component. Additionally, visual examples of the developed identity elements will be included to complement the descriptions provided.

# Contents



## List of Figures

# 1 Introduction

This report represents the first deliverable for Work Package 7 (WP7) – Dissemination, Communication, and Exploitation activities. The primary goal of WP7 is to ensure that the outcomes and impact of the research conducted within the SiLEAN project are effectively promoted to the broadest possible audience of potential users. To achieve this, WP7 has outlined the following key objectives:

- Ensuring maximal project visibility and impact by efficiently communicating project innovations towards relevant target groups.
- Promoting synergies with relevant stakeholders and other related projects to combine efforts and accelerate communication/dissemination of key messages and results.
- Installing and maintaining proper IPR protection measures, ensuring the best exploitation of the project results during and after the project, and identifying specific target groups and markets.

This deliverable focuses on the essential tools and materials needed to effectively inform a broad range of stakeholders. Establishing a strong corporate identity—such as the creation of a project website and dissemination materials—and carefully planning dissemination activities for targeted groups are crucial steps. These dissemination activities include:

- Development of promotional tools throughout the project.
- Online communications via the project website and social media platforms.
- Networking with professionals and presenting at conferences and events.
- Issuing press releases and publishing articles in specialized magazines and scientific journals.
- Leveraging various dissemination tools, as detailed in this deliverable.

Effective project dissemination is key to raising awareness and promoting the project throughout its lifecycle. By engaging in these activities, the project not only captures the attention of potential stakeholders but also attracts interest from other projects with shared objectives. This includes professional organizations, industries, research peers, and policymakers, who can easily discover and connect with the project through its dissemination efforts.

This deliverable, under task 7.1, details the creation of the SiLEAN logo and colour scheme, along with various presentation and document templates, and the project website, all of which contribute to the SiLEAN corporate identity. A consistent and recognizable corporate identity is essential for coherent communication and dissemination by the project consortium, helping to establish a unique image for the project. The development of the project identity and dissemination tools was led by Uniresearch (UNR), with contributions from all project partners.

The structure and content of this deliverable are based on management procedures applied by UNR for other similar Research and Innovation Actions (and approved by the project coordinator).

# 2 Project Identity

For SiLEAN, a distinctive visual identity has been developed to represent the project. This identity includes a project logo, a custom-designed icon, specific fonts, colour schemes, and templates for both text documents and presentations (as detailed in section 3). Flexibility in thickness is visualised by the layers in the logo icon and the font, transitioning from thick to thin. This gradient not only reflects the project's focus on reducing the use of rare metals but also highlights efforts to lower manufacturing costs.

## 2.1 Project Logo

A unique logo (Figure 2.1) and icon (Figure 2.2) have been specifically designed for the SiLEAN project and are available in multiple formats and resolutions. This flexibility allows for their effective use across various dissemination tools, including the website, templates, flyers, and more. The logo's carefully selected colours present a cohesive colour scheme, which is used to create templates and other dissemination materials that align seamlessly with the project's visual identity.


*Figure 2.1 - SiLEAN Logo*

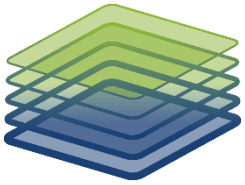


*Figure 2.2 - SiLEAN Icon*



*Figure 2.3 - SiLEAN Colour Scheme*

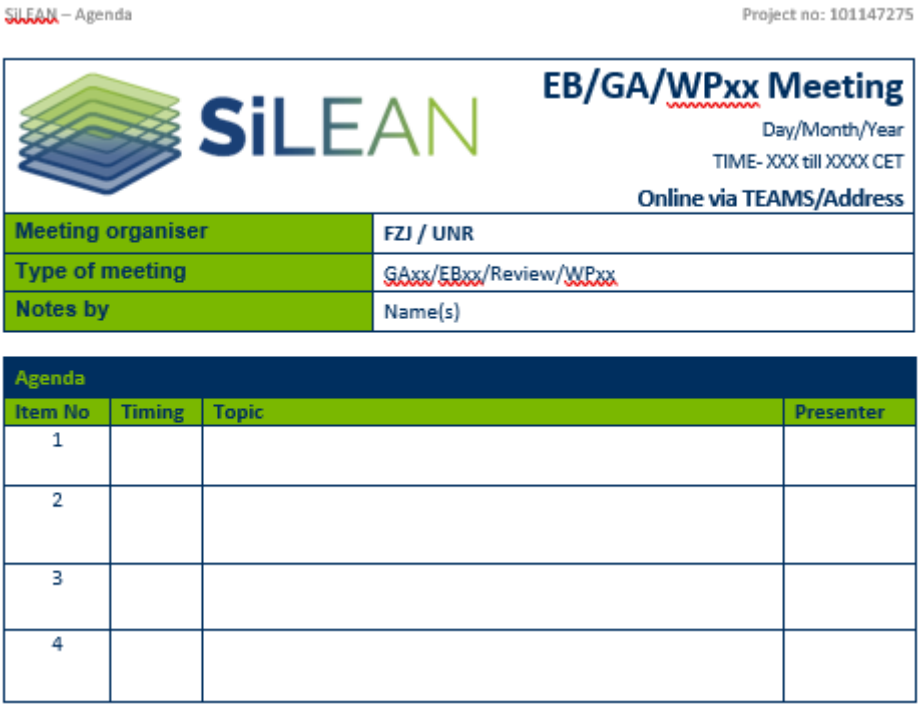
# 3 Project Templates

Adhering to the established SiLEAN project identity, a comprehensive set of templates has been created to ensure consistent document layout. These templates are essential tools for project management and partners, enabling the seamless execution of project activities and improving overall efficiency.

## 3.1 Document Templates

Templates have been developed to support a variety of project-related activities:

- **Template Agenda** for meetings: Figure 3.1 displays the created template for the agenda
- **Template Minutes** for meetings: Figures 3.2 displays the created template for the minutes



SiLEAN – Agenda Project no: 101147275

SiLEAN

**EB/GA/WPxx Meeting**

Day/Month/Year

TIME- XXX till XXXX CET

**Online via TEAMS/Address**

| | |
|---|---|
| **Meeting organiser** | **FZJ / UNR** |
| **Type of meeting** | GAxx/EBxx/Review/WPxx |
| **Notes by** | Name(s) |

| **Agenda** | | | |
|---|---|---|---|
| **Item No** | **Timing** | **Topic** | **Presenter** |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

*Figure 3.1 – SiLEAN Agenda Template*

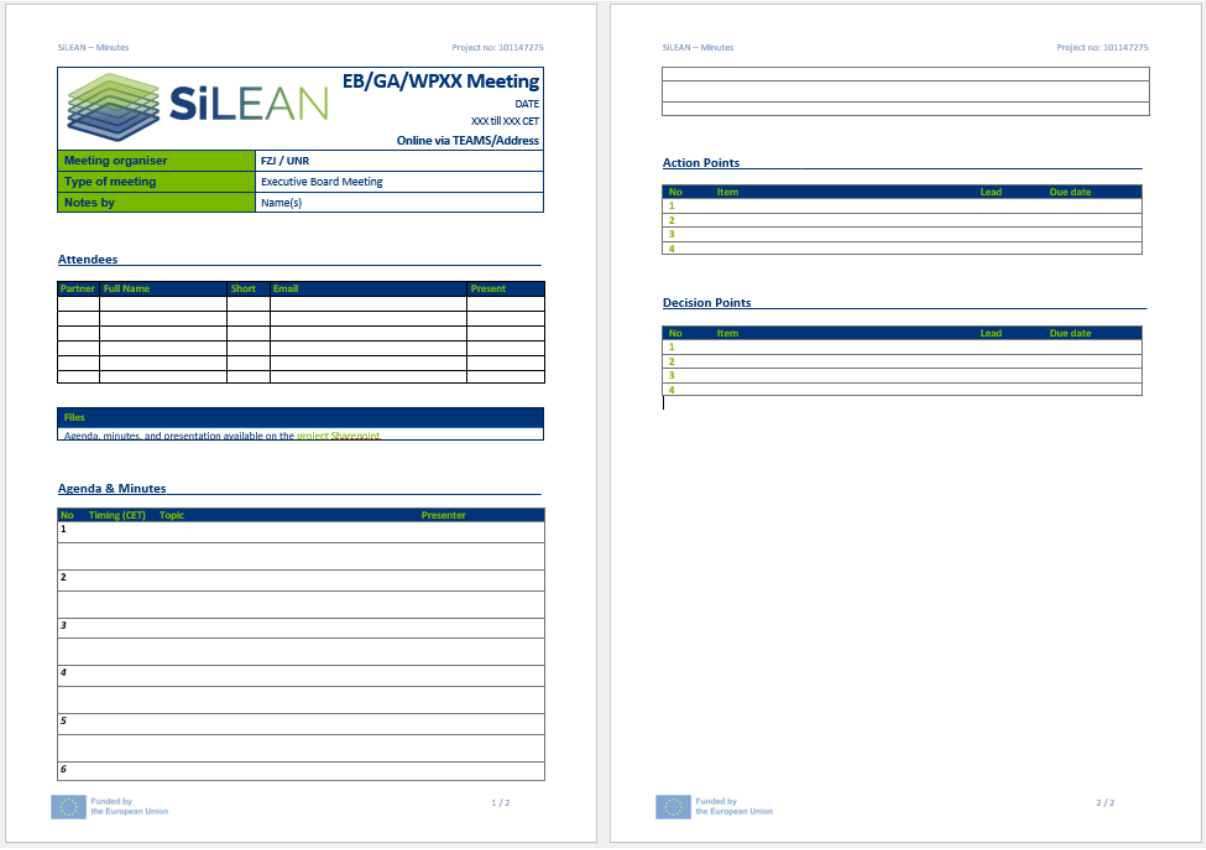



*Figure 3.2 - SiLEAN Minutes Template*

- **Deliverable and Milestone templates:** These templates, available to all partners, have been carefully designed to document project deliverables (refer to Figure 3.). They include key sections such as the front/title page, executive publishable summary (for confidential documents), general work overview, conclusions, risk registry, and EU acknowledgment and disclaimer. This comprehensive structure helps partners clearly outline the specifics of each deliverable. Additionally, a separate template has been created for reporting milestones. This easy-to-use document offers a clear format for detailing accomplishments, methodologies, timelines, responsible parties, and includes a section for public information, supporting effective communication and dissemination throughout the project.

- **News item templates for results and events**: Templates have been specifically designed for dissemination purposes, and partners are encouraged to use them for documenting the project's (interim) results. Additionally, partners can use these templates when reporting on events attended by project representatives, ensuring consistent and effective representation of the project (refer to Figure 3.).

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**Silicon solar cells with Low Environmental footprint and Advanced interfaces**

SiLEAN

**SiLEAN - Deliverable report**

**DX.XX. – Title of deliverable**

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## 1 Acknowledgement

The author(s) would like to thank the partners in the project for their valuable comments on previous drafts and for performing the review.

**Project partners:**

| # | Partner short name | Partner Full Name |
|---|---|---|
| 1 | FZJ | FORSCHUNGSZENTRUM JULICH GMBH |
| 2 | IMEC | INTERUNIVERSITAIR MICRO-ELECTRONICA CENTRUM |
| 3 | TUD | TECHNISCHE UNIVERSITEIT DELFT |
| 4 | UNR | UNIRESEARCH BV |
| 5 | NXW | NEXWAFE GMBH |
| 6 | PVW | PV Works B.V. |
| 7 | GET | GraphEnergyTech |
| 8 | 3SUN | 3SUN S.R.L. |

*Disclaimer/ Acknowledgment*



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*Figure 3.3 - SiLEAN Deliverable Template (front and acknowledgment pages shown)*

SiLEAN Website: https://silean.eu/

**The text provided in this document will be used on the SiLEAN website (and newsletter) so please make sure that no confidential information is enclosed, and that the information is easily readable and understandable.**

**Title of Event**

Involved partners:
Please list the short names of the involved partner(s).

General event info
- Start + end date
- Location
- Host
- Event website

Short outline of event purpose/profile
Summary of 1-5 lines.

Dissemination activity/partner's role at the event
Please describe:
- How you (partner XX) will disseminate the SiLEAN project (oral presentation, presenting a poster, demonstration, etc...).
- Who will attend/ have attended the event from your organisation? Please include a short explanation of why you are attending/have attended the event.
- Other HE projects / projects with a similar topic that will attend/have attended the event (or other parties you are collaborating with).
- An estimation of number of attendees.

***Please include visual aspects e.g. presentation screenshots/poster layout/pictures taken during the event (if possible)!***

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SiLEAN Website: https://silean.eu/

**The text provided in this document will be used on the SiLEAN website (and newsletter) so please make sure that no confidential information is enclosed, and that the information is easily readable and understandable.**

**Title of Result**

Involved partners:
Please list the short names of the involved partner(s).

Date of achievement of result:
Month, day, year.
(Result has been achieved on day month year in month xx of the project.)

Short introduction
Summary of 1-5 lines.

Result item
- **Objective:** What is the objective?
- **Research:** What has been researched? And how has this been done?
- **Result:** What was the result?
- **What will it be used for:** What will the results be used for?
- **Impact:** What is the impact (in general / on the project / ...)?

***Please use illustrations, graphs, and pictures to make it readable/understandable.***

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*Figure 3.4 - SiLEAN News (left) and Result (right) item template*

## 3.2 Newsletter Template

Throughout the SiLEAN project, a biannual electronic newsletter is published for the public. This newsletter is distributed to both consortium members and dedicated subscribers. Each edition provides updates on the project's progress, highlights achievements from the past six months, summaries of events attended by project partners, and relevant information about SiLEAN partners or related topics. Key features of the newsletter include:

1. The SiLEAN logo
2. SiLEAN News section
3. SiLEAN event section
4. Facts and Figures of the project
5. SiLEAN Partners' logos with links to the partners' specific page
6. EU acknowledgment and disclaimer

## 3.3 Report Templates

To track both financial and technical activities throughout the SiLEAN project, an internal interim reporting procedure has been established. Every six months, partners will be asked to submit updates on their activities, including updates related to Dissemination, Exploitation and Communication (DEC) activities and details on the effort expended (in terms of PM and budget). Financial activities will be monitored using the EU-FIN system, while technical activities will be tracked through templates prepared by UNR. These templates will align with the project's identity and will be used to report on technical progress and key achievements. Additionally, a template for the technical section of the Periodic Reporting, along with instructions, will be distributed two weeks before the start of the periodic report (M18).

## 3.4 Presentation Templates

Presentation templates have been created to meet the needs of engaging and effective presentations for meetings and conferences. A specific template has been developed for Work Package (WP) updates, to be used during SiLEAN General Assemblies (GA) and Executive Board (EB) meetings.

This approach ensures that all presentations are consistent with the project's visual identity, maintaining uniformity across different platforms and events. The templates are intended to improve communication during crucial project updates, offering a standardized and visually cohesive format for presenting information at meetings.


*Figure 3.5 – SiLEAN WP presentation template (first and last slides shown)*

# 4 Project Website and social media

In M3 of the project, the SiLEAN public website was launched with the domain: https://silean.eu/. Designed by UNR with contributions from all project partners, the website serves as a platform to highlight SiLEAN's results and provide a contact point for those interested in the project's progress and outcomes. The site will be regularly updated and maintained to ensure that all information remains current.

## 4.1 Website structure and homepage

The public website is meticulously structured to provide a thorough overview of SiLEAN and its key objectives. It offers detailed information about planned activities and highlights the project's anticipated impact. The website's design focuses on user-friendliness, featuring an intuitive layout that makes it easy for visitors to navigate and access relevant information.

The site employs a scrollable webpage format to ensure a smooth and engaging user experience. Navigation is simplified with six main tabs: Project, Results, News/Events, Partners, and Contact. Each tab is carefully organized to cover different aspects of the project, guiding visitors through various areas of interest.

On the homepage, visitors can easily explore the main elements of the project by scrolling through the page. The homepage is organized into key sections, including:

- The SiLEAN short title and main project picture.
- A short project introduction where the project mission is outlined, with links to the project's Objectives, Results, Concept, and Facts & Figures.
- Facts and Figures of the project.
- A link to a featured article.
- SiLEAN News.
- SiLEAN Partners with links to the partners' specific page.
- Media kit with project logo.
- Links to a contact form to get in touch with the project coordinator and LinkedIn channel.
- EU acknowledgement and disclaimer.

The website features an appealing design with numerous hyperlinks for easy navigation. On the right side of the page, there is a direct link to the newsletter, enabling visitors to effortlessly share content across various platforms. Figure 4.1 displays a screenshot of the initial sections of the homepage.


*Figure 4.1 – SiLEAN Website Homepage*

## 4.2 Website sections

The main section “Project” gives an overview of the SiLEAN concept, approach, results, and general information. Details are provided in each subsection:

- About SiLEAN
- Objectives
- Concept
- Approach
- Mission
- Results
- Facts & Figures
- Publications

In the "**Results**" section, the website features an interactive timeline showcasing project updates, with results organized by their month of achievement.

The "**News/Events**" section is regularly updated with items related to the project and its partners. This includes press releases, participation in workshops, conferences, and other meetings, updates on interim results, and various initiatives from consortium partners. The section will also highlight upcoming events such as (online) conferences, seminars, symposia, workshops, SiLEAN General Assemblies, and other relevant activities that project partners will attend. Additionally, past events in which partners have participated will be listed on the Events page.

The "**Partners**" section offers detailed information about each participant in the SiLEAN project. It includes a list of partners, a map showing their geographical locations, and displays their logos. Figure 4.2 provides an overview of the content and layout of the Partners page. By clicking on a logo, visitors can access a brief description of the organization, learn about their role in the project, and find a direct link to their company website.

At the bottom of every page and section on the website, the EU funding acknowledgment is prominently displayed, as shown in Figure 4.3. This acknowledgment features the European Union flag and the text "Funded by the European Union." In addition, the support by the Swiss State Secretariat for Education, Research and Innovation (SERI) is also mentioned.

Additionally, a **disclaimer/copyright** page has been included on the website.

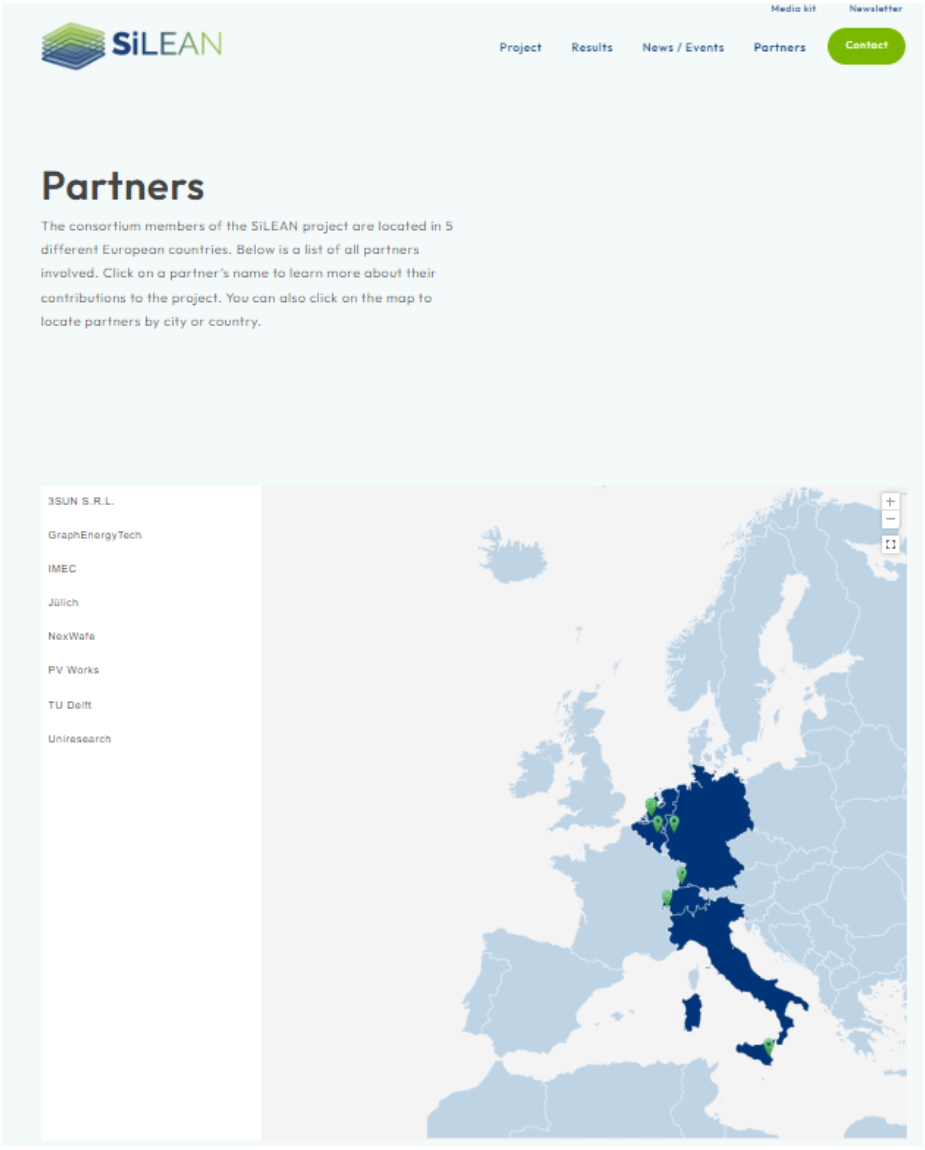


*Figure 4.2 - Website partners section (left) and example of partner description (below)*


*Figure 4.3 - EU funding acknowledgment*

## 4.3 Social media – SiLEAN LinkedIn account

The SiLEAN Project will be regularly sharing updates, posting news, and promoting events through the social media LinkedIn account. The SiLEAN LinkedIn page (Figure 4.4) is accessible via the LinkedIn tab on the website homepage. From the LinkedIn page, visitors can navigate back to the website homepage. The page was set up and is regularly updated by the DEC lead (UNR). Itfeatures updates related to the project progress and its consortium partners.

This ongoing engagement strategy leverages a broad network to build a unified project identity within the wider community. By adhering to a regular schedule of updates and posts, SiLEAN aims to create a vibrant online presence that both informs and interacts with stakeholders. This approach promotes continuous collaboration and reinforces a shared identity across the network, thereby amplifying the project's impact within the community.

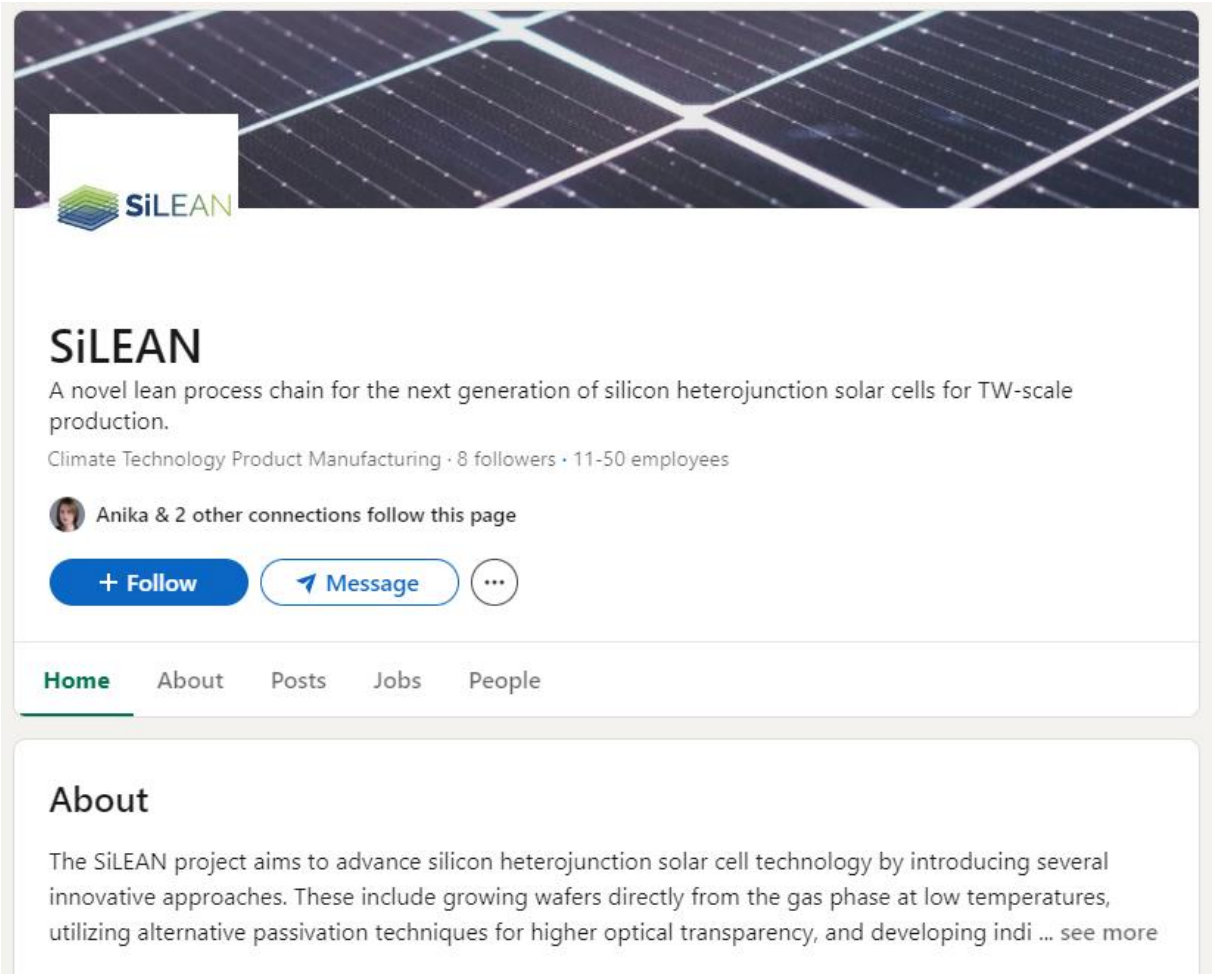


*Figure 4.4 - SiLEAN LinkedIn page*

# 5 Deviations from Annex 1

There are no deviations from the description of this deliverable as given in Annex I of the Grant Agreement.

# 6 Acknowledgement

The author(s) would like to thank the partners in the project for their valuable comments on previous drafts and for performing the review.

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