NEXT LEVEL QUANTUM INFORMATION PROCESSING FOR SCIENCE AND TECHNOLOGY

DELIVERABLE D5.2 –WEBSITE ONLINE AND FULLY OPERATIONAL

Grant Agreement:	101080086
Project Title:	NEXT LEVEL QUANTUM INFORMATION PROCESSING FOR SCIENCE AND TECHNOLOGY
Project Acronym:	NeQST
Project Start Date:	01 November 2022
Deliverable Number and title:	D5.2 –WEBSITE ONLINE AND FULLY OPERATIONAL
Related Work Package	WP5 - Management, Dissemination, Communication, and Exploitation
Due Date:	31 January 2023 (postponed until 28 February 2023)
Submission date:	23 February 2023
Type	DEC
Dissemination Level	Public

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History of change

Version	Date	Contributor	Additional information
0.1	18/01/2023	Philipp Hauke	First draft of the report
0.2	15/02/2023	Edoardo Ballini, Kevin Thomas Geier, Alberto Bottarelli	Addition of details on the technical implementation
0.3	16/02/2023	Philipp Hauke	Addition of screenshots, NeQST corporate design, further details
0.4	17/02/2023	Elisa Chiarani	Quality check
1.0	23/02/2023	Philipp Hauke	Finalisation and submission

Executive Summary

This project report describes the deliverable 5.2 of the Horizon Europe project NeQST concerning the project website, accessible at https://neqst-he.eu .

In particular, it details the setting up of the website, the technology used, the rationale behind the choice of content, and measures to maximize the visibility of and interaction with the website.

The website will serve as a driver of all the dissemination activities of the project. Some of its main aims are (a) to disseminate the project partners, objectives, and results to a wide public, also of laypeople, and (b) to make researchers working in the field aware of the project, also in view of potential collaborations and hiring.

This report reflects the status of the website as per 17/02/2023, date of the official release. The website is designed as a "living entity", meaning its structure can be adapted if need arises and its content will be continuously updated during the entire course of the project.

This document will be updated as the need for amendments, changes in processes, or additional content emerges.

Table of Contents

1. Overview

1.1 Rationale and aims

Input for the content and structure of the webpage was collected from all partners during the NeQST Kickoff Meeting (17-18/11/2022), and development started immediately afterwards. It was publicly released on 17/02/2023 at the following link https://neqst-he.eu .

The webpage was developed internally at the coordinator group UniTN. Content was provided by all partners as well as by the project administration.

The main aims of the website are:

(a) To disseminate the project objectives and results to a wide public. This includes, but is not limited to:

Target audience	Specific aims
Education system (high-school and university students, teachers)	Update about current developments in high-tech research, inform about future trends (for career choice or for update of scholastic curriculum).
Press (in particular specialized to high-tech topics)	Update about current developments in high-tech research.
General audience (e.g., laypeople interested in advances in technology)	Explain potential impact of quantum technologies on society.
Policy makers	Inform about status of quantum flagship. Inform about potentials of quantum technologies.
Investors in the high-tech sector	Inform about state of art of quantum technologies and exploitation possibilities.

(b) To make researchers working in the field aware of the project. This includes, but is not limited to:

Target audience	Specific aims
Active scientists (all levels from Bachelor and Master student to Full Professors)	Increase impact and uptake of project results. Stimulate potential collaborations.
Hiring candidates (PhD or Postdoc candidates)	Inform high-potentials about job possibilities within the project.

The structure and technology of the website was chosen to maximize the success of these dissemination aims, as is detailed in what follows.

1.2 Technology used

The website is built using the popular static site generator Hugo. Since no dynamical content is required, a static website suits the project's needs best, as it achieves high performance and is secure by design. The basic layout, styles, and content structure is provided by Docsy, a free open source Hugo theme for documentation sites. This theme features a lightweight, fully responsive, and easily customizable design based on Bootstrap, and it comes with built-in support for blog-like content such as news, events, and publications, which is ideal for disseminating the project's activities.

The source code of the website is stored on a non-public software repository on gitlab.com under the namespace NeQST-HE. Thanks to GitLab's support for industry-standard workflows in collaborative software development, the website can easily be maintained and updated by different parties. The website is deployed using GitLab Pages, which automatically rebuilds the site using GitLab CI/CD after

each update and serves the website publicly under the GitLab domain neqst-he.gitlab.io as well as under the custom domain neqst-he.eu. In addition, an RSS feed is automatically generated, accessible under the URL https://neqst-he.eu/index.xml, which can be subscribed to in order to automatically get notified when new content is available on the website.

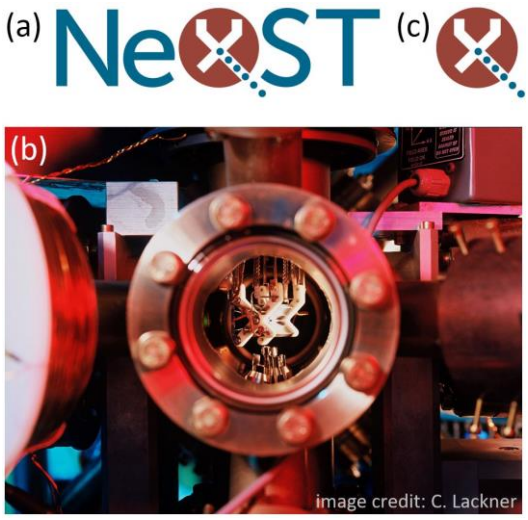
1.3 NeQST logo, Corporate design

Despite the feature-richness of the underlying theme, the website establishes a distinct corporate design for the project through a custom color scheme, a specifically designed logo, as well as custom graphics such as the cover image on the landing page or the puzzle picture on the research page (see Section 2).

A logo was specifically designed for the project by the UniTN graphics unit. As the most recognizable element of the NeQST logo (Figure 1a) was chosen the x-shaped Paul trap that is the center piece of the quantum hardware hosted at Innsbruck (Figure 1b). A line of bullets represents the chain of ions on which the quantum computations will take place. The picture of the experimental setup is also the hero image visible at the landing page. The central visual element (the stylized Q) also forms the webpage's favicon (Figure 1c).

The colors of the NeQST logo where chosen to harmonize with the hero image and to work with a large range of backgrounds. The colors of the webpage were chosen accordingly.

Figure 1: The NeQST logo (a) has at its core an abstraction of the x-shaped ion trap, seen at the center of the picture of the experimental setup at University of Innsbruck (b). The favicon (c), visible in the browser bar, consists of the central element of the NeQST logo, the stylized Q.



1.4 Update process

The websites will be maintained and enriched by the Coordinator according to the project's course of action and the ongoing activities of the project, while ensuring the collection of relevant materials and information from all partners. Via frequent conference calls and the project's meetings, the project coordinator will poll for new outcomes, events, and material that the project should disseminate online. Accordingly, it will coordinate the publication on the website and on the connected social media tools in a dynamic and proactive way, also according to related events and initiatives.

A main advantage of the Hugo static site generator is that it defines layout templates for various content types, such as news, events, publications, or reports, and makes it easy to contribute new content also for non-experts using simple Markdown syntax. Moreover, this framework makes it straightforward to adapt the website structure if need arises.

1.5 Measures to increase visibility and number of visitors

Search engine optimization (SEO) is vital to increase a website's visibility. To this end, the website's search performance is monitored by the developers using Google Search Console (GSC). This not only ensures that the website is added to Google's search index as quickly as possible after publication, but it also helps identifying potential issues affecting search performance or user experience, e.g., on mobile devices.

In addition, GSC provides basic statistics on the visibility and popularity of individual pages of the website, which is useful for SEO.

Importantly, as opposed to analytics tools like Google Analytics, GSC does not store any cookies on users' devices and thus ensures a maximum of data privacy.

2. Content of website

2.1 Overview of website structure

The website is structured as follows, ensuring ready access by the visitors to all relevant information.

- Landing page
- About
- Consortium
- Research
- Resources
- Blog
- Contacts
- Search

All pages contain the legal disclaimer and detailed funding information in their footer.

Figure 2: Webpage footer

2.2 Landing page

The landing page is designed to give visitors a first impression of the project and to stimulate their curiosity to explore the webpage further. For that aim, the information presented consists of short and concise statements, some key numbers, as well as a list of recent publications. It also contains acknowledgements to the Horizon Europe funding. Links lead the visitor from the landing page to the various subpages.

Figure 3: Screenshot landing page 1/3

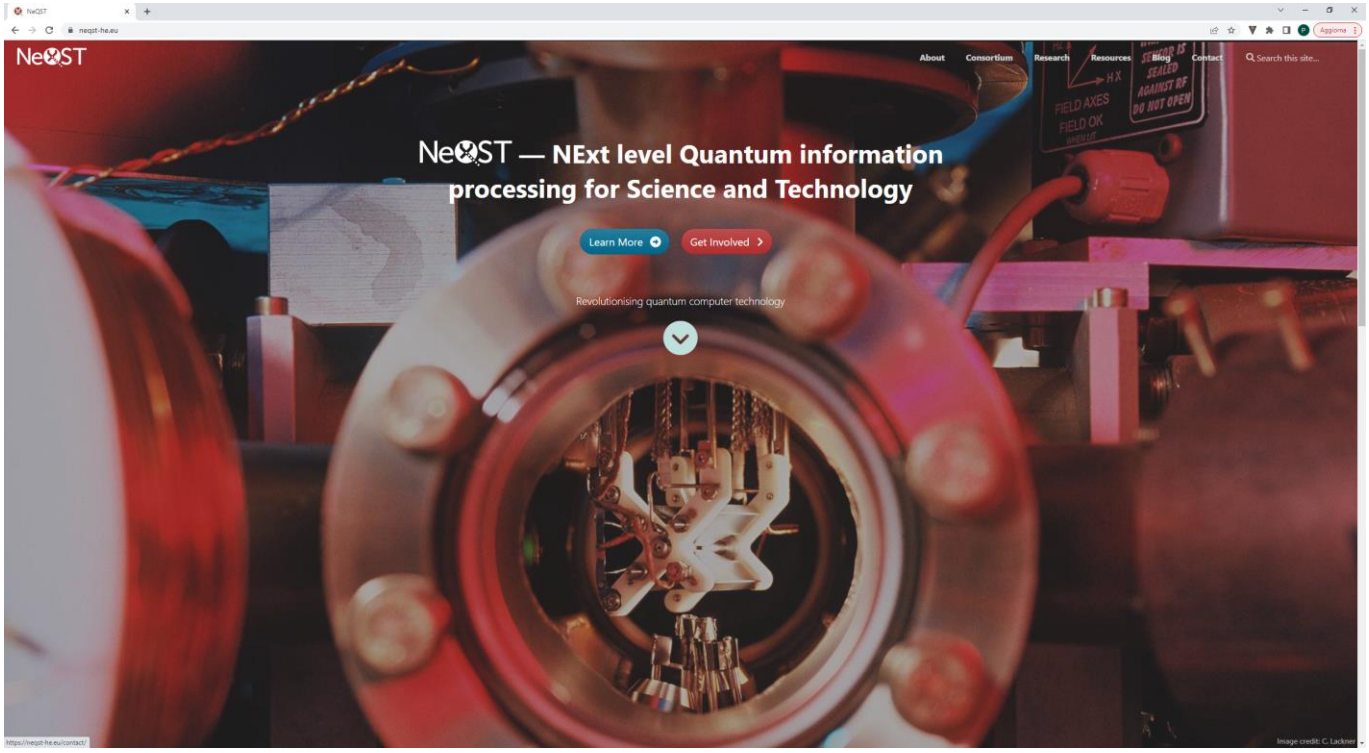


Figure 4: Screenshot landing page 2/3

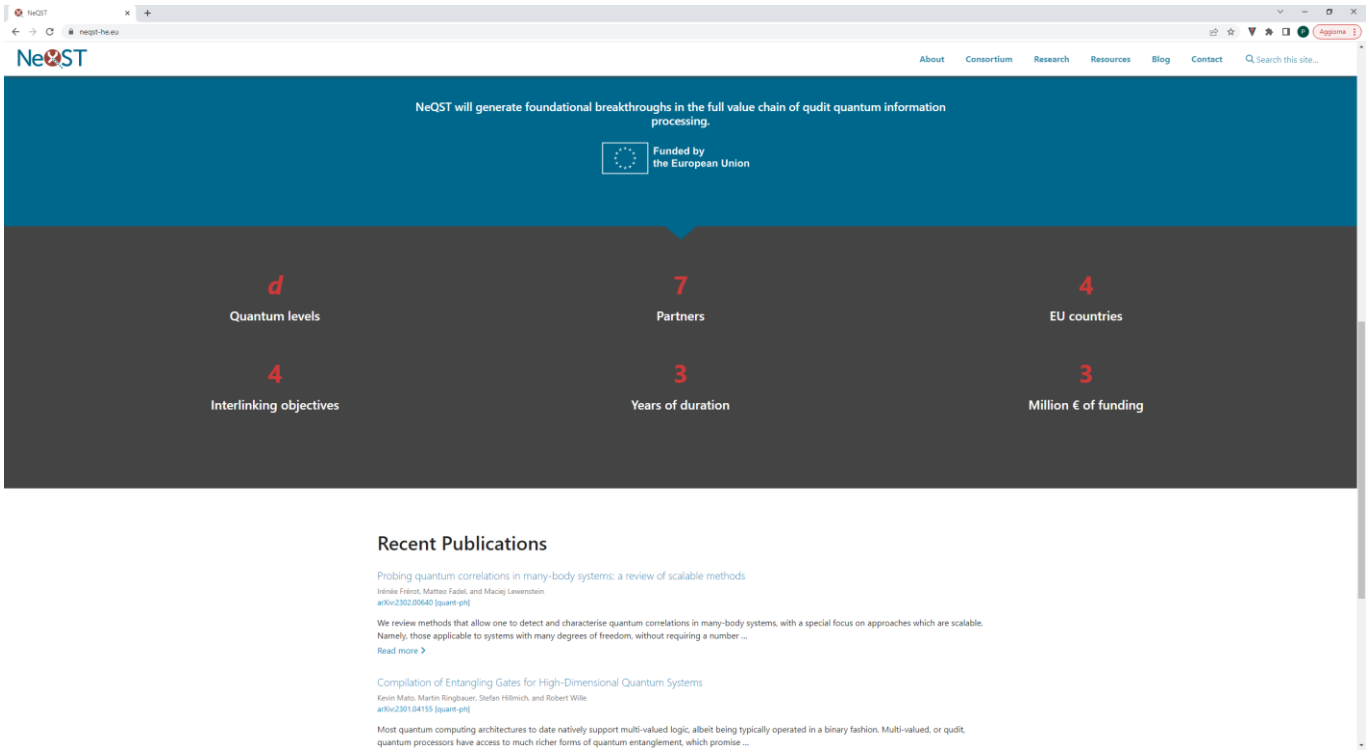
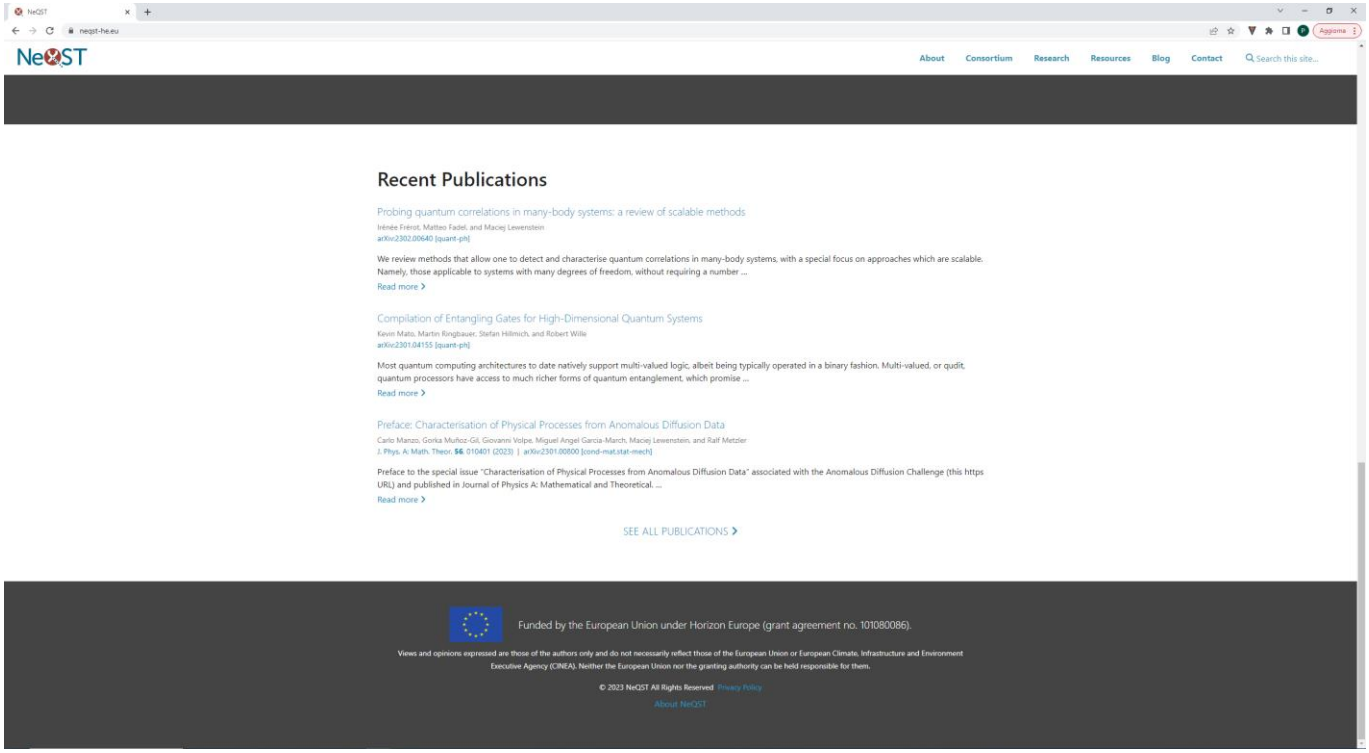


Figure 5: Screenshot landing page 3/3



2.3 About

The about page describes the project in general terms. It is aimed at the broad public. Besides high-level explanations of the central aspects of the project, it also contains project details such as total funding, EU contribution, project duration, etc.

Figure 6: Screenshot about page 1/2

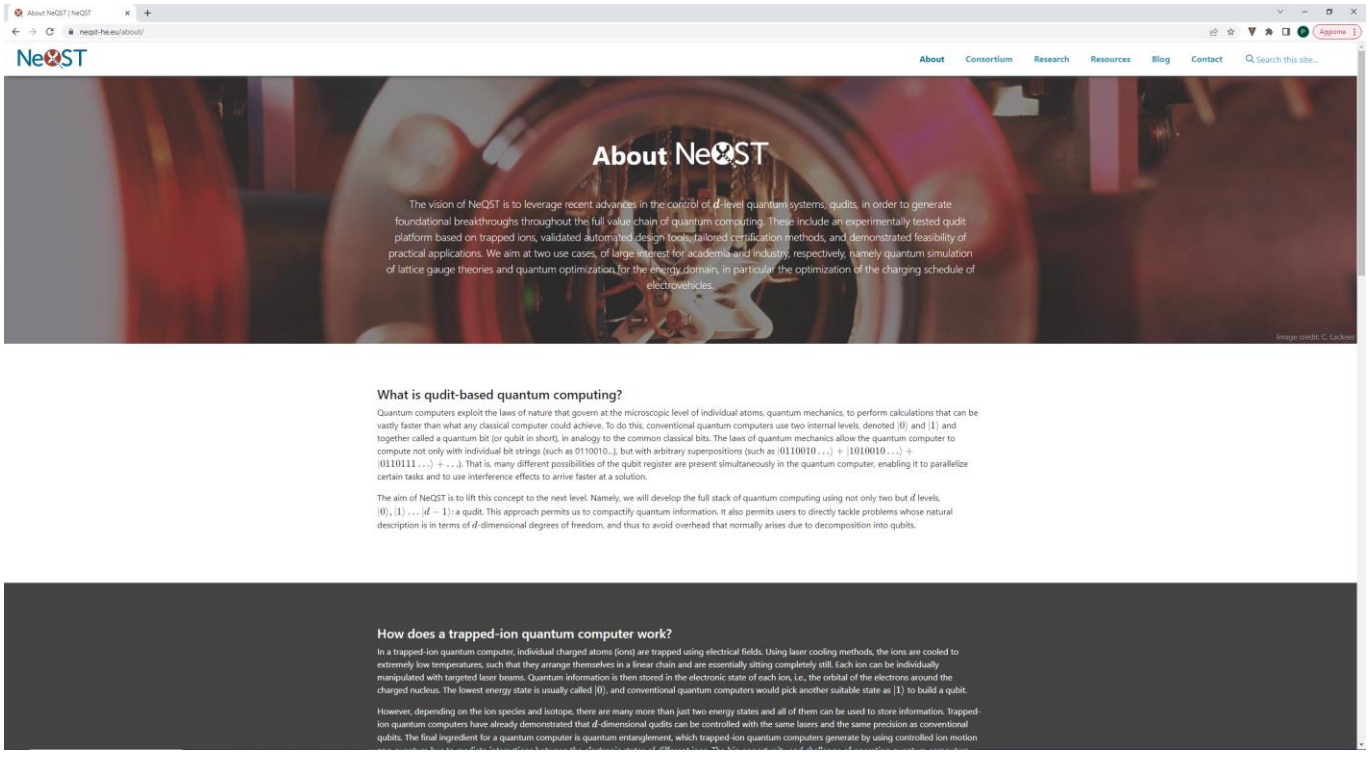
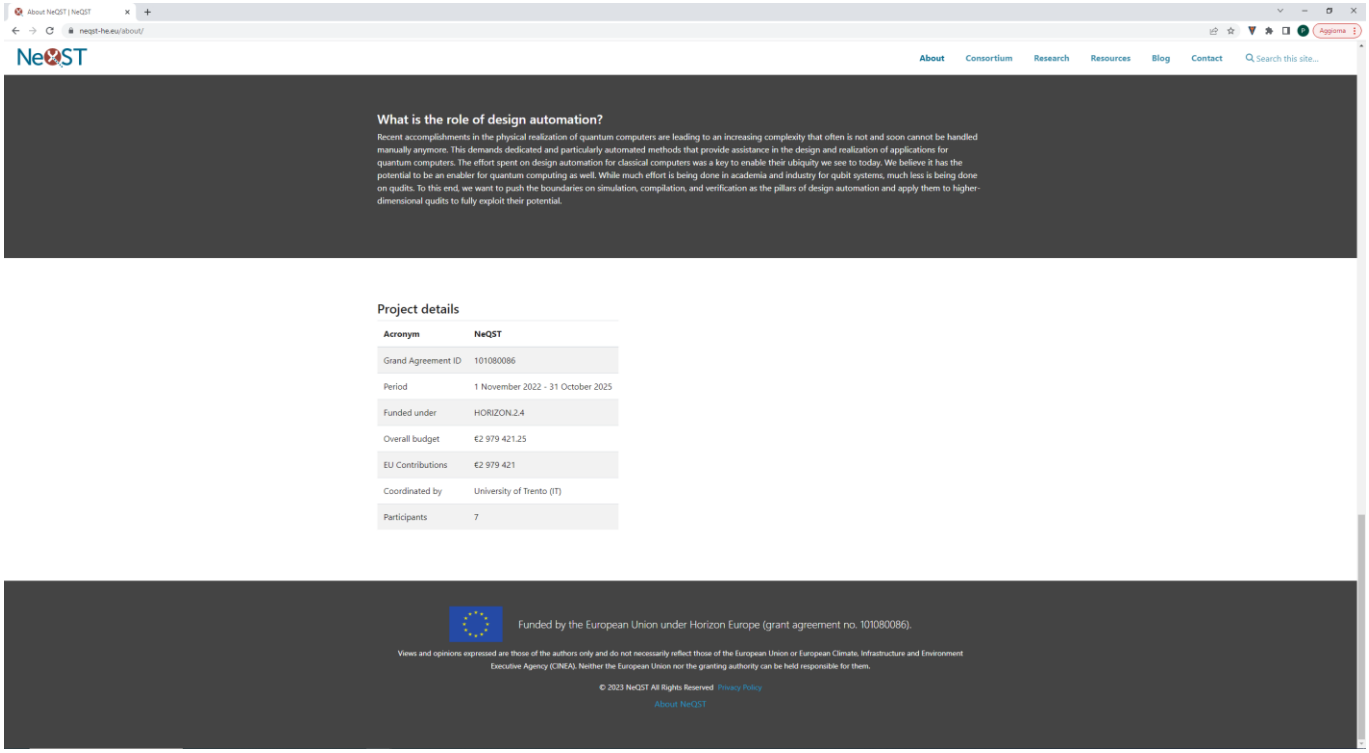


Figure 7: Screenshot about page 2/2

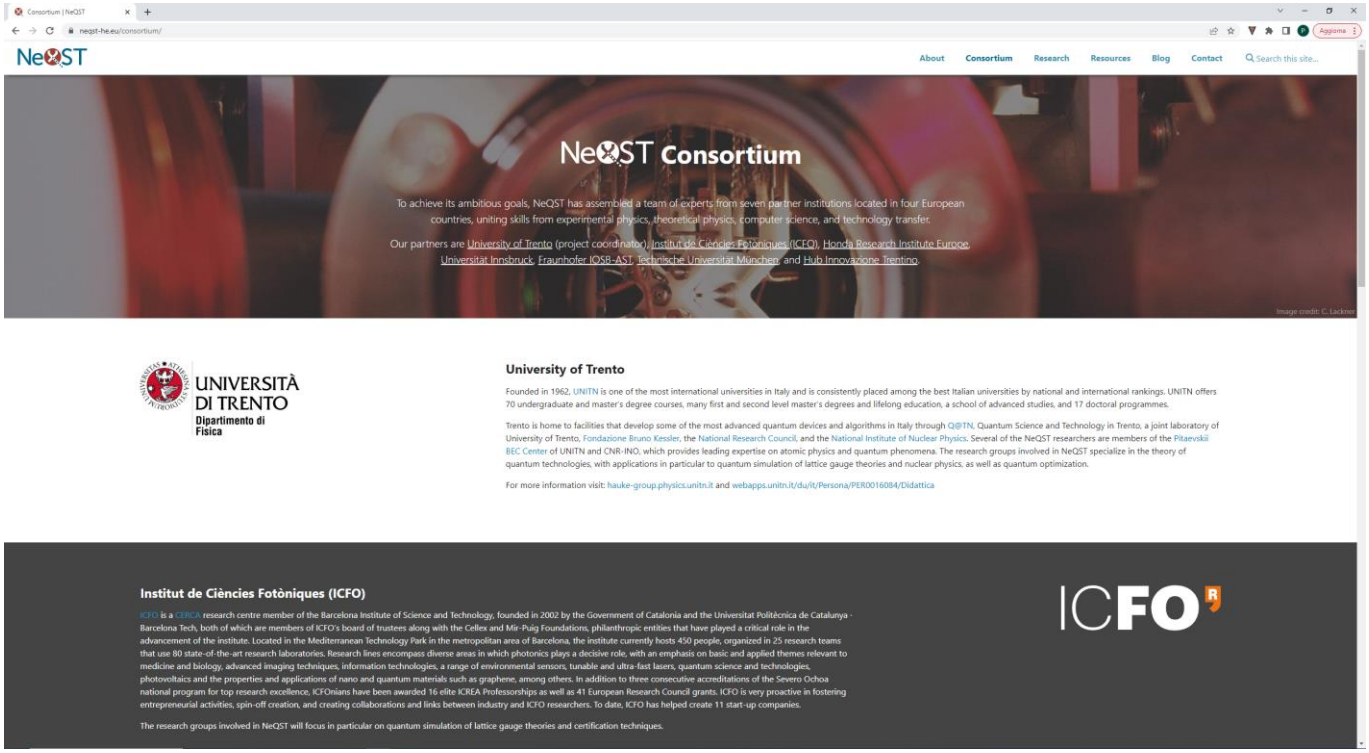


2.4 Consortium

The consortium page provides an overview of the involved partners as well as a description of their expertise relevant to the project. The aim is to highlight the excellence and cross-disciplinarily of the partners involved.

The page further provides links to the homepages of the involved research groups, partner institutions, and quantum centers, in order to provide further information for the interested visitor and to show how the project is embedded into the wider community efforts in quantum technologies.

Figure 8: Screenshot consortium page



2.5 Research

The research page provides an overview of the research objectives and some of the methodology used. The aim is to provide a further layer of information that is more technical than the about page. It also highlights how the different objectives interlink with each other.

Figure 9: Screenshot research page 1/2

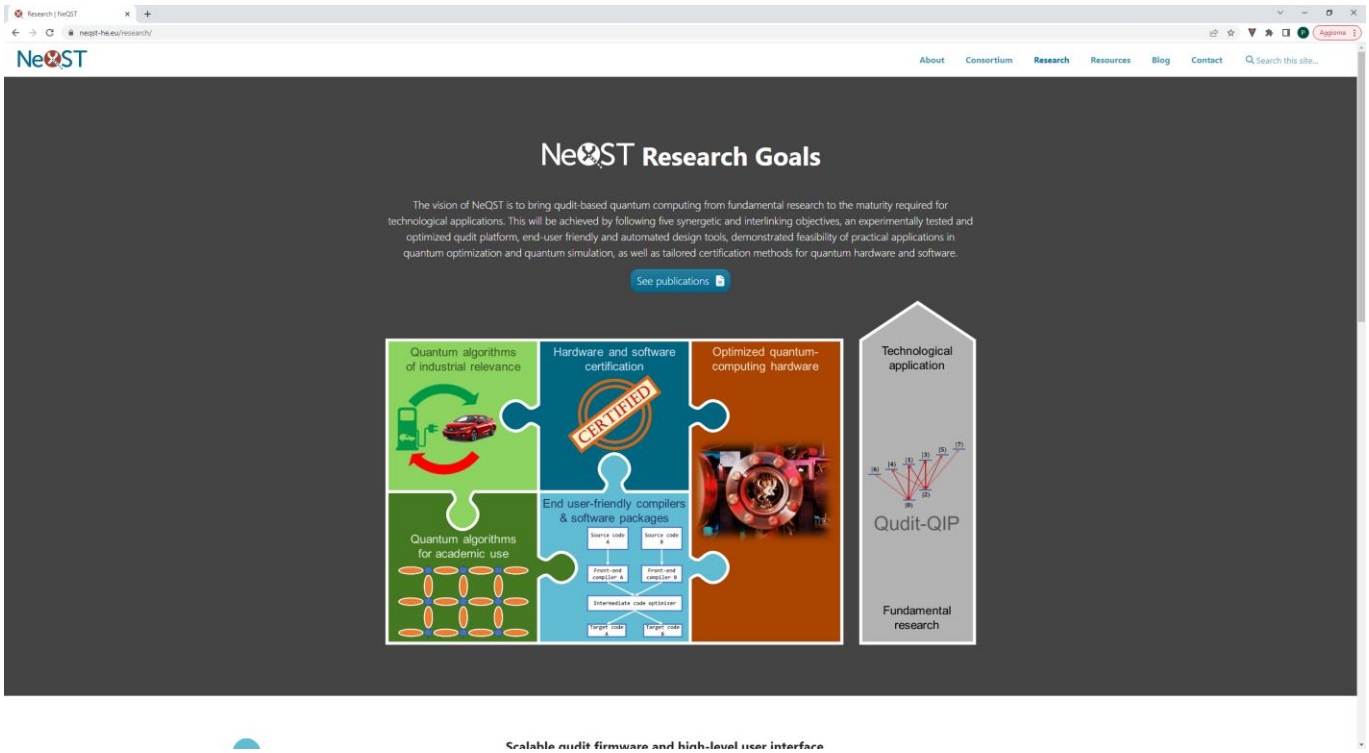
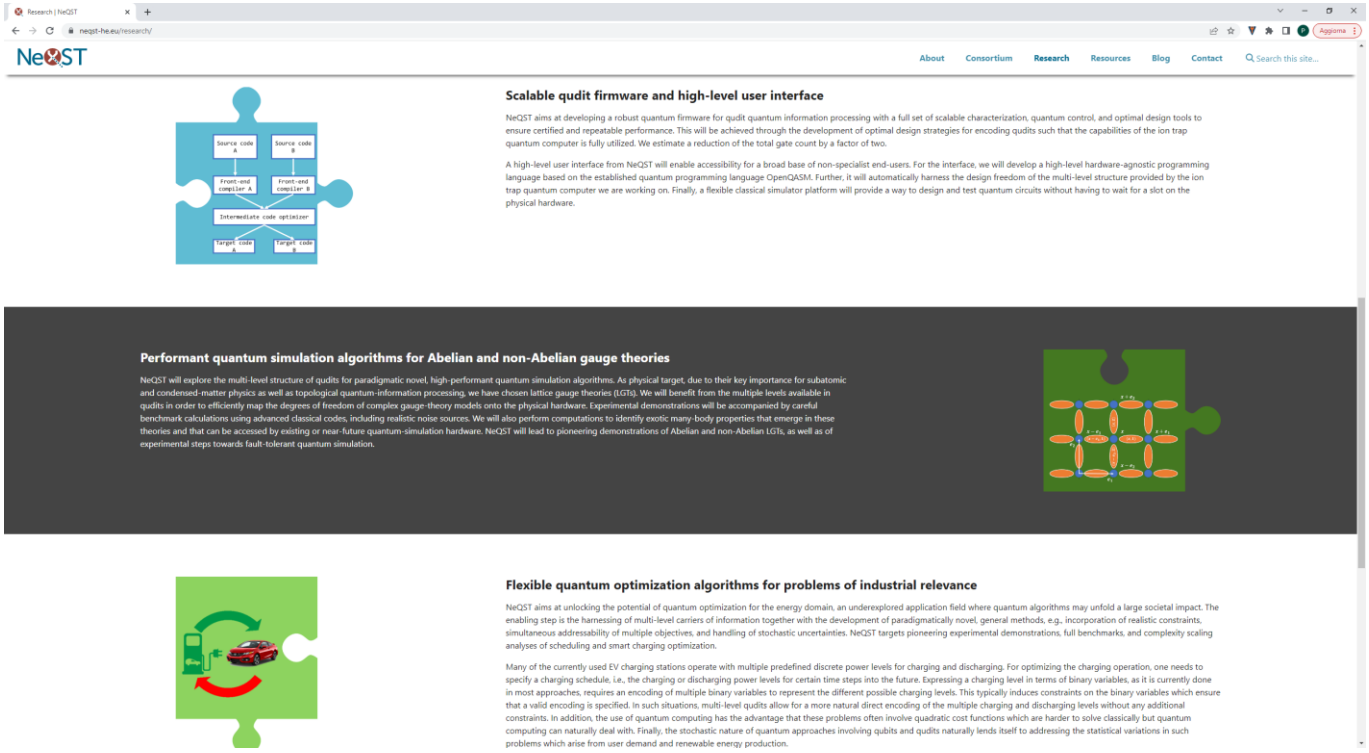


Figure 10: Screenshot research page 2/2



2.6 Resources

The resources page serves to demonstrate the constant research output of the project and provides links to any kind of material that could help in disseminating the activities of the project.

A list of publications provides easy access to the scientific results. It is specially aimed at experts in the field as well as prospective collaborators, PhD students, and postdocs. The list page contains the most important information, while clicking on any publication leads to further details.

The resources page also contains downloadable versions of the public reports (deliverables) concerning the project.

In the future, the resources page will contain other content types related to the project's activities, e.g., video interviews, presentations given by project members, podcasts, etc. Its contents will be filled as the project evolves.

Figure 11: Screenshot resources page

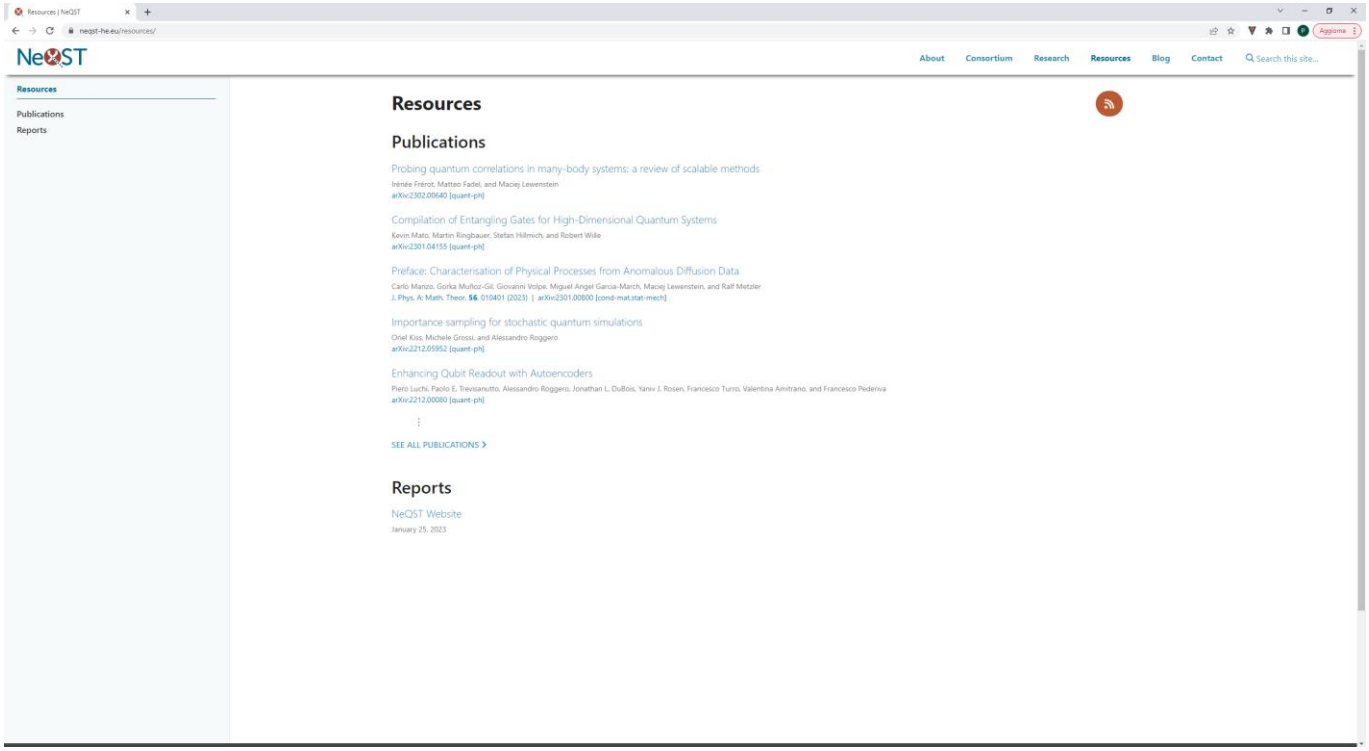
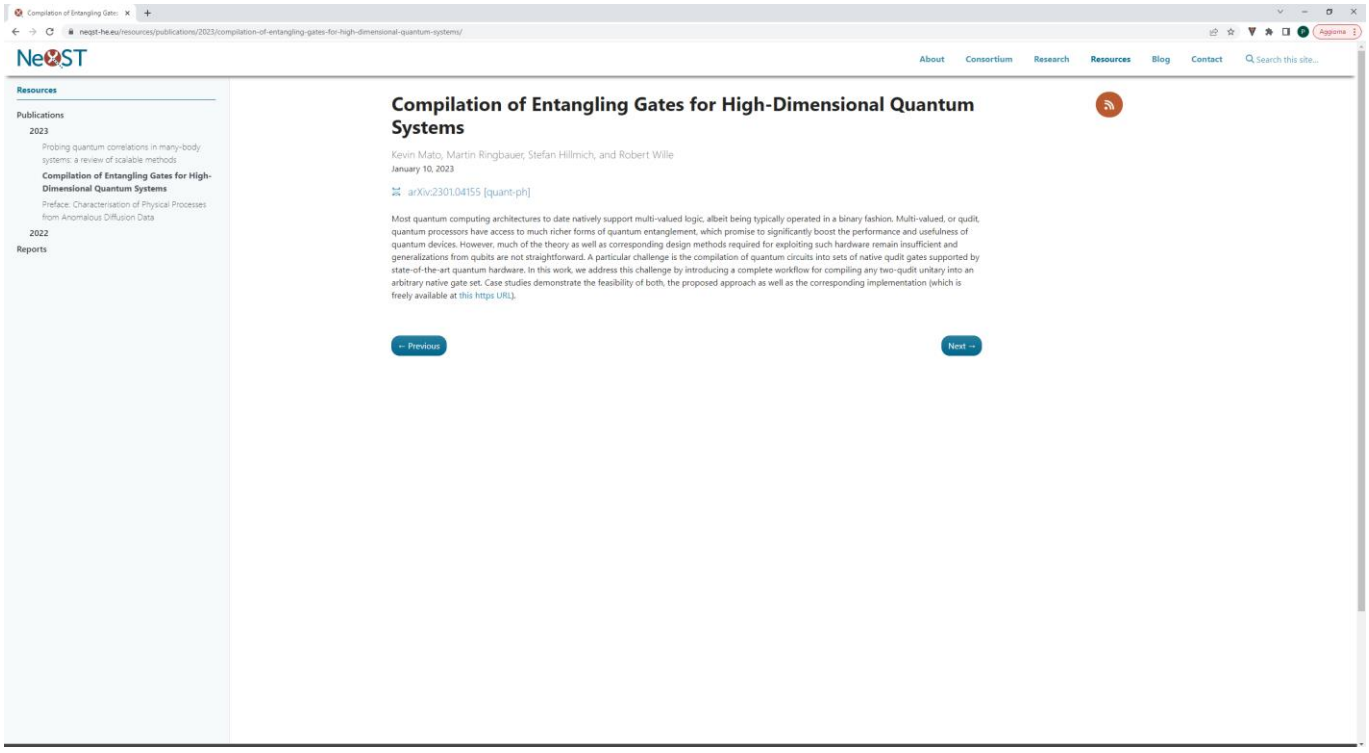


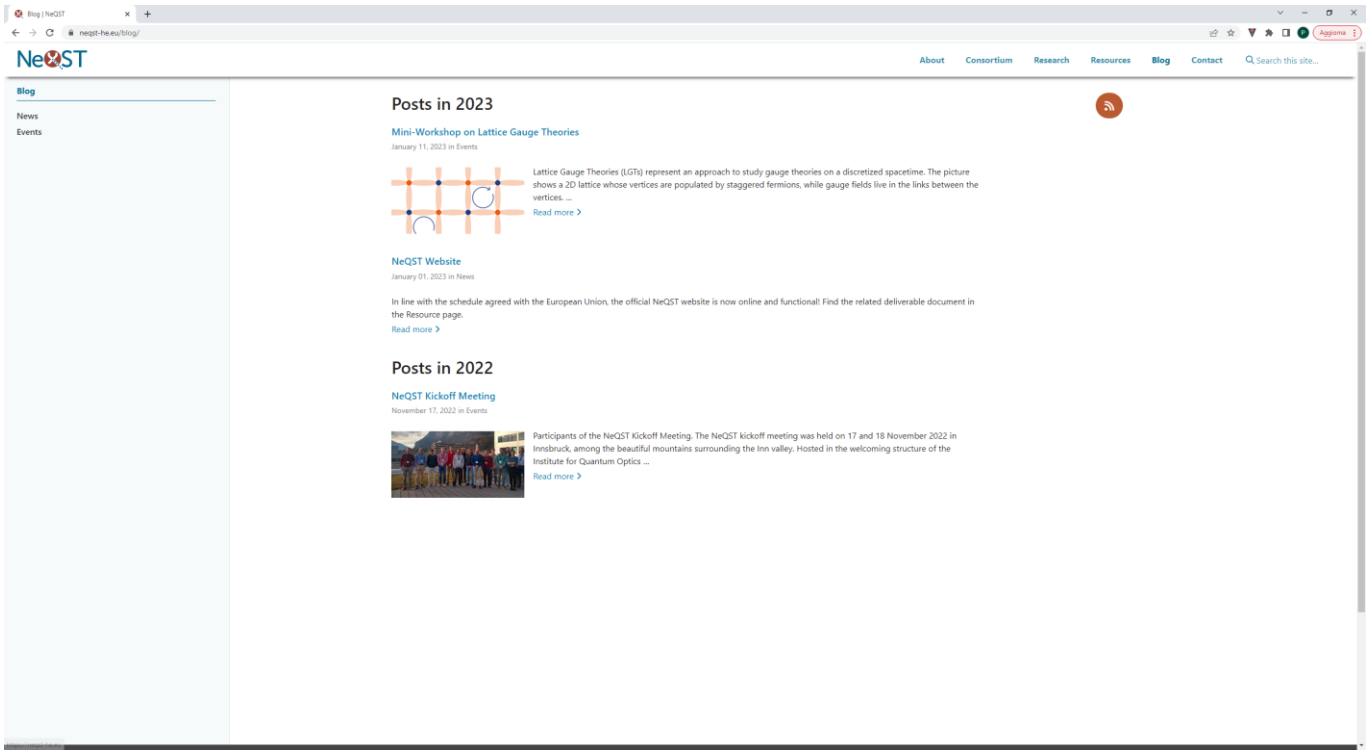
Figure 12: Screenshot detailed information of a preprint



2.7 Blog

The blog provides a continuous update of the most important news and events related to the project, its implementation, its results, its impact, etc.

Figure 13: Screenshot blog



2.8 Contacts

The contacts page provides quick access to the most relevant contacts for any inquiries regarding the project. At this moment, this is the postal address of the project Coordinator as well as the email address neqst-he@unitn.it, which is managed by the staff at the Coordinator.

2.9 Search

The website features a local Javascript-based search powered by Lunr, which is the default local search engine provided by the Docsy theme.