

< EQUALITY >

Efficient QUantum ALgorithms for IndusTrY

WP6 Impact creation

D6.1 Project website (including project repository)

Version: 1.0

Submission Date: 30/01/2023



Document control

Project title	Efficient QUantum ALgorithms for IndusTrY
Project acronym	EQUALITY
Call identifier	HORIZON-CL4-2021-DIGITAL-EMERGING-02
Grant agreement	101080142
Starting date	01/11/2022
Duration	36 months
Project URL	http://equality-quantum.eu
Work Package	WP6 Impact creation
Deliverable	D6.1 Project website (including project repository)
Contractual Delivery Date	M3
Actual Delivery Date	M3
Nature¹	R
Dissemination level²	PU
Lead Beneficiary	Da Vinci Labs
Editor(s)	Renan Picoreti Nakahara, Adela Staszowska
Contributor(s)	-
Reviewer(s)	Wael Yahyaoui
Document description	This deliverable concerns de creation of the project's website, which will serve as the main communication and dissemination platform to allow stakeholders, policymakers, and media access to the project development and results launched and developed. It will also host all the public dissemination deliverables and promote relevant content.

¹R: Document, report (excluding the periodic and final reports); DEM: Demonstrator, pilot, prototype, plan designs; DEC: Websites, patents filing, press & media actions, videos, etc.; DATA: Data sets, microdata, etc.; DMP: Data management plan; ETHICS: Deliverables related to ethics issues.; SECURITY: Deliverables related to security issues; OTHER: Software, technical diagram, algorithms, models, etc.

²PU – Public, fully open, e.g. web (Deliverables flagged as public will be automatically published in CORDIS project's page); SEN – Sensitive, limited under the conditions of the Grant Agreement; Classified R-UE/EU-R – EU RESTRICTED under the Commission Decision No2015/444; Classified C-UE/EU-C – EU CONFIDENTIAL under the Commission Decision No2015/444; Classified S-UE/EU-S – EU SECRET under the Commission Decision No2015/444

Version control

Version	Editor(s) Contributor(s) Reviewer(s)	Date	Description
0.4	Renan Picoreti Nakahara, Adela Staszowska	25/01/2023	Intermediate document finished.
0.5	Wael Yahyaoui	26/01/2023	Intermediate document approved by the reviewer.
0.8	Renan Picoreti Nakahara	27/01/2023	Document finished by editor.
0.98	Wael Yahyaoui	27/01/2023	Document approved by reviewer.
1.0	Wael Yahyaoui	30/01/2023	Document released by Project Coordinator.

Abstract

A quantum revolution is unfolding, and European scientists are on the lead. Now, it is time to take decisive action and transform our scientific potential into a competitive advantage. Achieving this goal will be critical to ensuring Europe's technological sovereignty in the coming decades.

EQUALITY brings together scientists, innovators, and prominent industrial players with the mission of developing cutting-edge quantum algorithms to solve strategic industrial problems. The consortium will develop a set of algorithmic primitives which could be used as modules for various industry-specific workflows. These primitives include differential equation solvers, material simulation algorithms, quantum optimisers, etc.

To focus our efforts, we target eight paradigmatic industrial problems. These problems are likely to yield early quantum advantage and pertain to the aerospace and energy storage industries. They include airfoil aerodynamics, battery and fuel cell design, space mission optimisation, etc. Our goal is to develop quantum algorithms for real industrial problems using real quantum hardware. This requires grappling with the limitations of present-day quantum hardware. Thus, we will devote a large portion of our efforts to developing strategies for optimal hardware exploitation. These low-level implementations will account for the effects of noise and topology and will optimise algorithms to run on limited hardware.

EQUALITY will build synergies with Quantum Flagship projects and Europe's thriving ecosystem of quantum start-ups. Use cases will be tested on quantum hardware from three of Europe's leading vendors and two HPC centres. The applications targeted have the potential of creating billions of euros for end-users and technology providers over the coming decades. With EQUALITY, we aim at playing a role in unlocking this value and placing Europe at the centre of this development. The project gathers 9 partners and has a budget of €6M over 3 years.

Consortium

The EQUALITY consortium members are listed below.

Legal Name on Grant Agreement	Short name	Country
CAPGEMINI DEUTSCHLAND GMBH	CAP	DE
QU & CO AI BV	QC	FR
AIRBUS OPERATIONS GMBH	AOG	DE
DEUTSCHES ZENTRUM FUR LUFT - UND RAUMFAHRT EV (DLR)	DLR	DE
FRAUNHOFER GESELLSCHAFT ZUR FORDERUNG DER ANGEWANDTEN FORSCHUNG EV (FHG)	ENAS	DE
INSTITUT NATIONAL DE RECHERCHE EN INFORMATIQUE ET AUTOMATIQUE (INRIA)	INRIA	FR
UNIVERSITEIT LEIDEN (ULEI)	ULEI	NL
DA VINCI LABS	DVL	FR

Disclaimer

This document does not represent the opinion of the European Union or European Commission, and neither the European Union nor the granting authority can be held responsible for any use that might be made of its content.

This document may contain material, which is the copyright of certain EQUALITY consortium parties, and may not be reproduced or copied without permission. All EQUALITY consortium parties have agreed to the full publication of this document. The commercial use of any information contained in this document may require a license from the proprietor of that information.

Neither the EQUALITY consortium, nor a certain party of the EQUALITY consortium warrant that the information contained in this document is capable of use, nor that use of the information is free from risk and does not accept any liability for loss or damage suffered by any person using this information.

Acknowledgement

This document is a deliverable of the EQUALITY project. This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement N° 101080142.

Table of contents

Document control.....	2
Version control.....	3
Abstract.....	4
Consortium	4
Disclaimer	5
Acknowledgement.....	5
Table of contents	6
List of abbreviations	7
List of figures	7
1. Executive Summary	8
2. Website.....	8
3. Repositories.....	23
3.1. Project Repository.....	23
3.2. Publication Repository	23
3.3. Data Repository	23

List of abbreviations

WP	Work package
KPI	Key Performance Indicator

List of figures

Figure 1: EQUALITY website, segment of the "Home" page in the "Home" section.....	10
Figure 2: EQUALITY website, segment of the "Home" page in the "Home" section with placeholder content.....	11
Figure 3: EQUALITY website, footer segment included in all pages of the website.	12
Figure 4: EQUALITY website, segment of the "Overview" page in the "About" section.....	13
Figure 5: EQUALITY website, segment of the "Objectives" page in the "About" section.	14
Figure 6: EQUALITY website, segment of the "Partners" page in the "Consortium" section.	15
Figure 7: EQUALITY website, segment of the "People" page in the "Consortium" section with some placeholder content.	16
Figure 8: EQUALITY website, segment of the "Deliverables" page in the "Resources" section with placeholder content.	17
Figure 9: EQUALITY website, segment of the "Publications" page in the "Resources" section with placeholder content.	18
Figure 10: EQUALITY website, segment of the "News" page in the "Outreach" section with placeholder content.....	19
Figure 11: EQUALITY website, segment of the "Events" page in the "Outreach" section with placeholder content.....	20
Figure 12: EQUALITY website, segment of the "Media Center" page in the "Outreach" section with placeholder content.	21
Figure 13: EQUALITY website, segment of the "Contact" page in the "Contact" section.	22
Figure 14: EQUALITY's SharePoint based shared directory.	23

1. Executive Summary

This document is a deliverable of the EQUALITY project, funded under grant agreement number 101080142.

This deliverable, “D6.1 Project website (including project repository)”, is part of Work Package 6 (WP6) “Impact creation” which “ensures communication and dissemination of EQUALITY project activities to different stakeholders: from researchers, industry, policymakers to the public. The main goal of activities in this WP is improving impact, public acceptance, and translation. We also implement and monitor our Open Science activities. The objectives of this work package are to develop the project communication infrastructure, to elaborate and implement a successful dissemination plan, to develop a supporting ecosystem, and to manage open data and open access publications.”

This deliverable concerns de creation of the project’s website, which will serve as the main communication and dissemination platform to allow stakeholders, policymakers, and media access to the project development and results launched and developed. It will also host all the public dissemination deliverables and promote relevant content.

This deliverable D6.1 is followed by deliverable “D6.2 Dissemination & communication plan” which presents the strategy for communication and dissemination of the EQUALITY project’s objectives and results. The evaluation of the communication and dissemination activities will be made available at M12, 24, and 36 with the deliverable “D6.3 Dissemination & communication reports”.

2. Website

The EQUALITY project website – <http://equality-quantum.eu> – contains public domain information about the project aimed at different stakeholders and target audiences.

From a design perspective, the EQUALITY website has been custom designed and developed specifically to integrate with the EQUALITY brand to ensure a strong and consistent brand experience and with mobile-first thinking to deliver the best experience on mobile devices as well as ensure smooth and speedy browsing. The EQUALITY website has been developed using custom-coded HTML, PHP, and JavaScript and has been integrated with ExpressionEngine, a flexible & secure open-source PHP-based CMS for easy updating of content.

Initial content includes the following sections and pages:

- Section “Home”:
 - Page “Home” – a homepage welcoming visitors to explore and learn more about the project;
- Section “About”:
 - Page “Overview” – a summary of the project aimed at a wide audience;
 - Page “Objectives” – a list of the project’s objectives;
- Section “Consortium”:
 - Page “Partners” – a list of consortium partners and a summary of their contribution to the project;

- Page “People” – a list of consortium partner’s members alongside a short biography;
- Section “Resources”:
 - Page “Deliverables” – a list of the project’s public deliverables;
 - Page “Publications” – a list of the project’s publications;
- Section “Outreach”:
 - Page “News” – a list of news about the project;
 - Page “Events” – a list of events organised by the project and of events of interest to the community organised by external entities;
 - Page “Media Centre” – a list of multimedia items produced by the project;
- Section “Contact”:
 - Page “Contact” – a contact form for visitors to request information about the project.

Figures 1–13 show screen captures of EQUALITY website’s main sections and pages.

Consortium partner DVL is responsible for keeping the website always up-to-date and functioning properly, solving any issues in a timely manner. EQUALITY’s website will be regularly updated by consortium partner DVL for the inclusion of news articles, events and other relevant media, as well as new content about the project and its partners, such as deliverables, publications, and other materials produced by the consortium. The schedule for these updates will depend on the specific needs of the website. Relevant website updates will be communicated to consortium partners through internal channels and to target audiences through EQUALITY’s social media channels. The upcoming updates include publishing the first news articles, adding social media feeds to the “Home” and “News” pages, and small adjustments to design elements.

Google Analytics is used to monitor the performance of the website (number of sessions, users, engagement time, etc.).

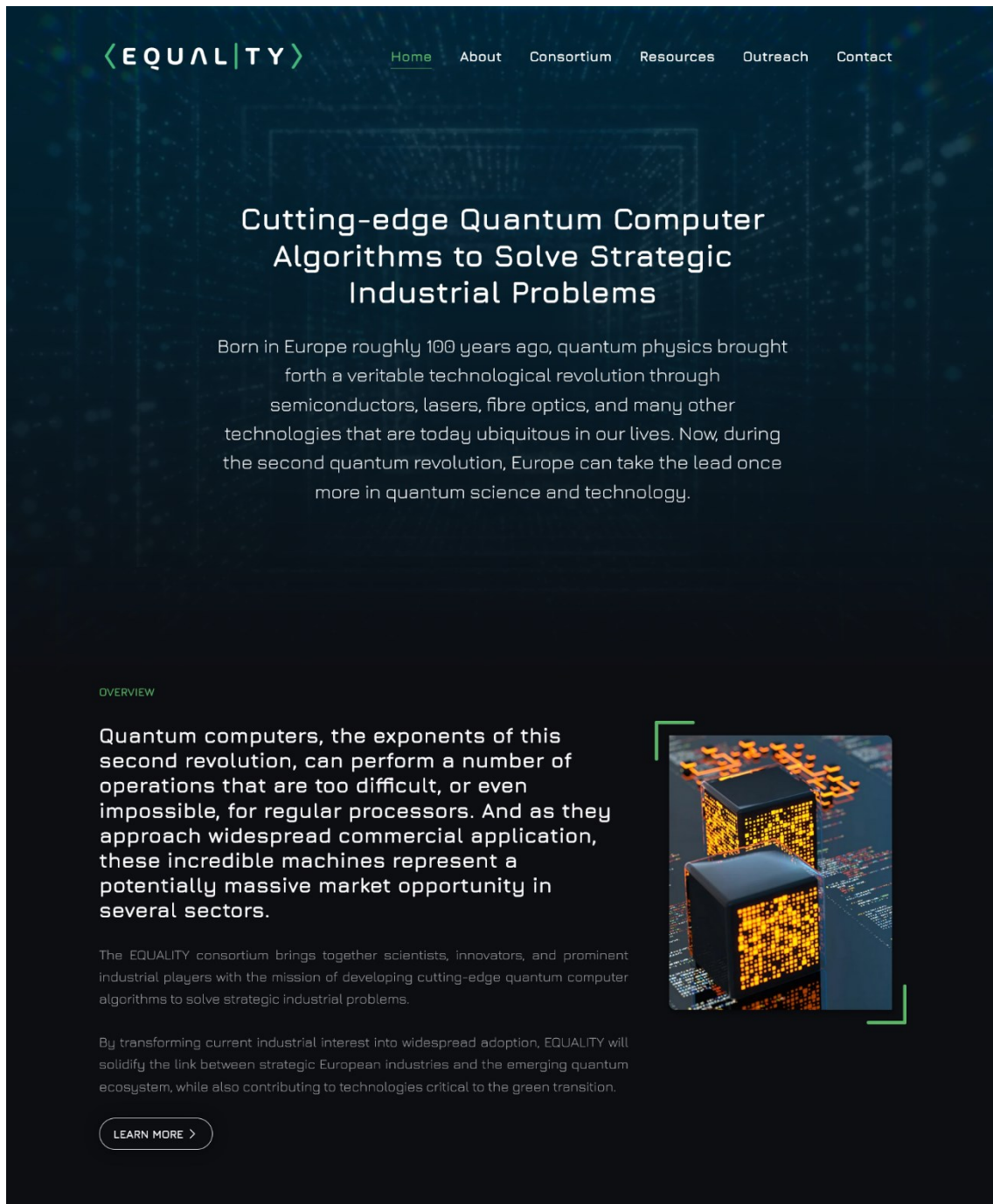


Figure 1: EQUALITY website, segment of the "Home" page in the "Home" section.

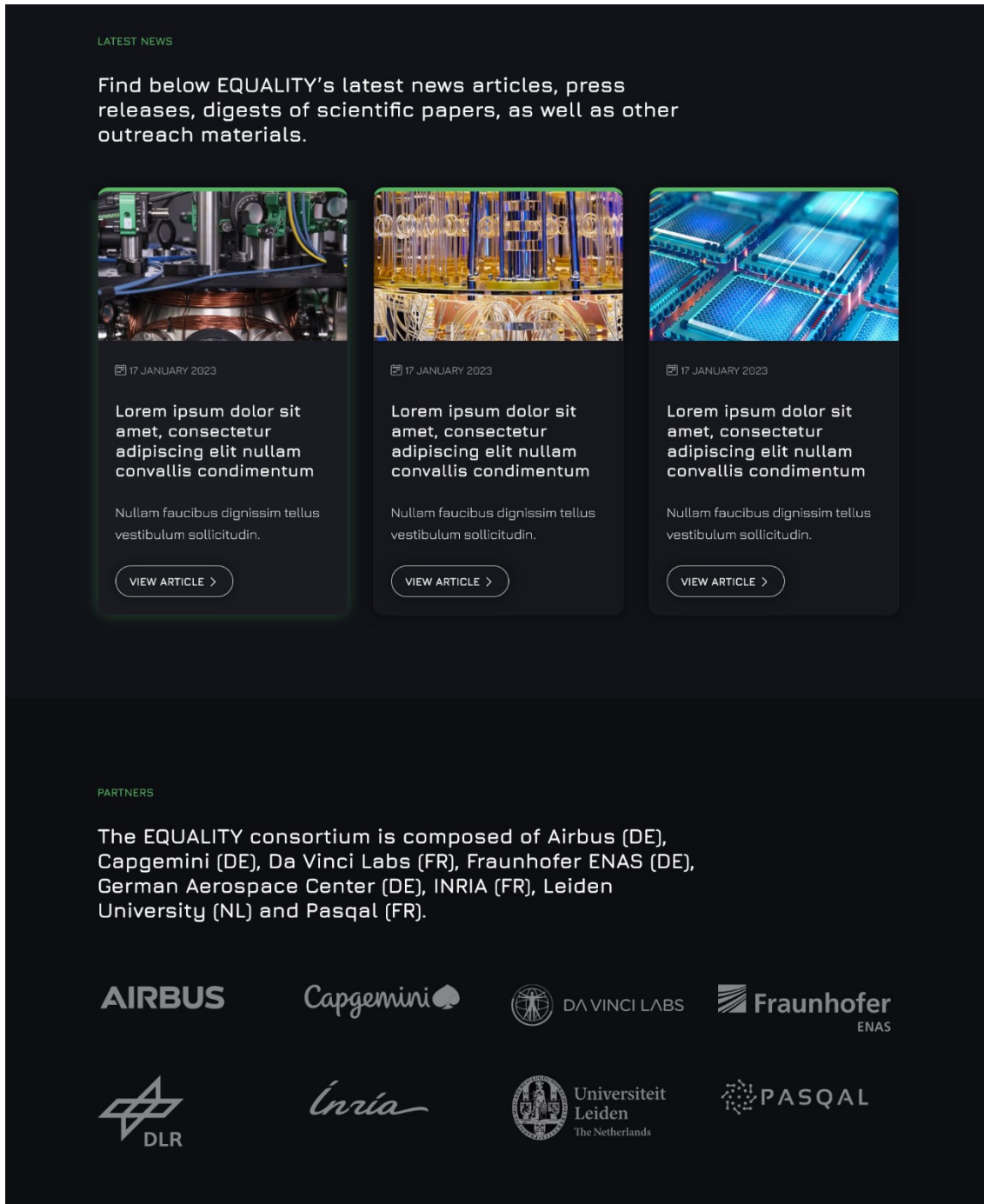


Figure 2: EQUALITY website, segment of the “Home” page in the “Home” section with placeholder content.



Figure 3: EQUALITY website, footer segment included in all pages of the website.



Figure 4: EQUALITY website, segment of the "Overview" page in the "About" section.



Figure 5: EQUALITY website, segment of the "Objectives" page in the "About" section.

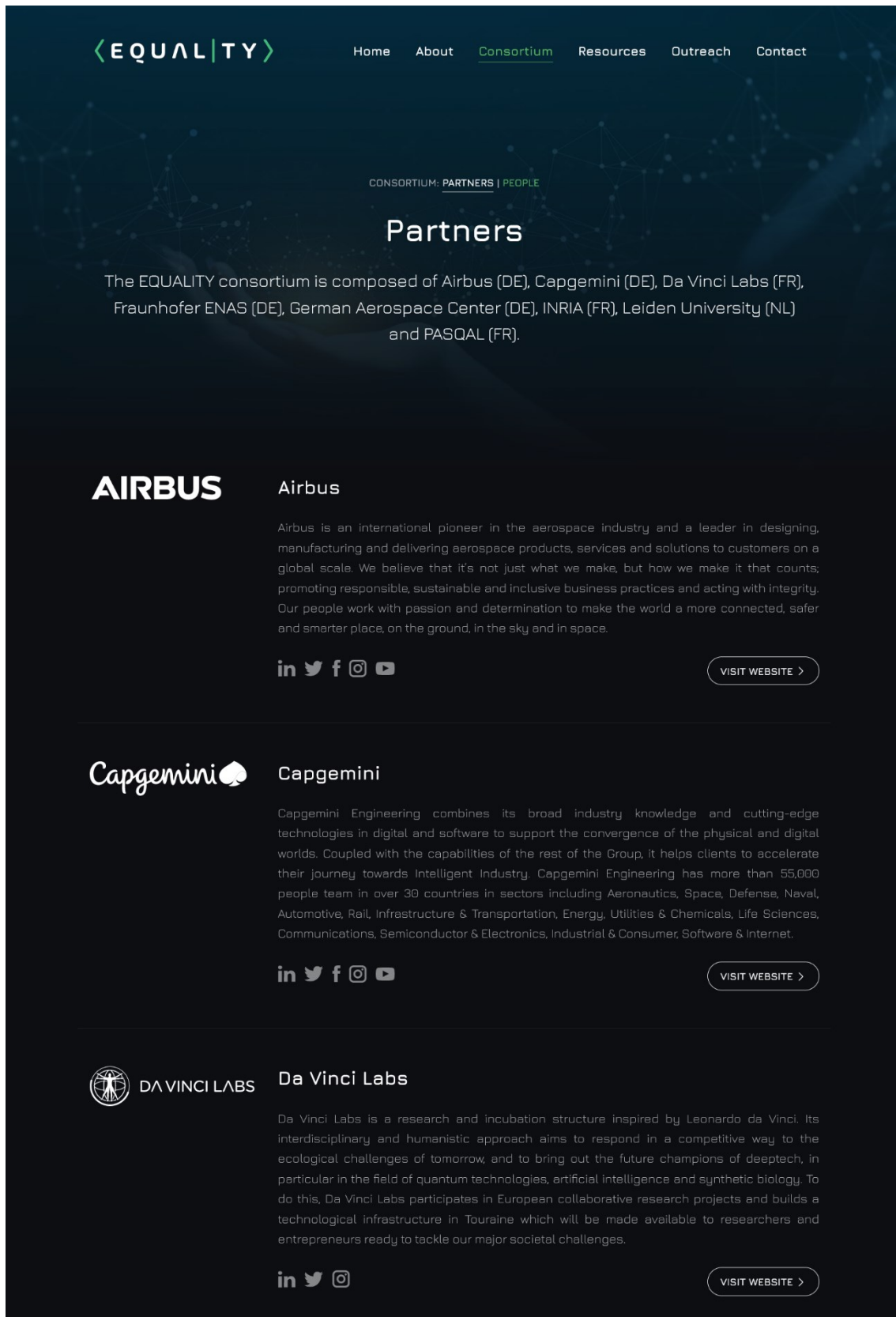


Figure 6: EQUALITY website, segment of the "Partners" page in the "Consortium" section.

<EQUALITY> Home About Consortium Resources Outreach Contact

CONSORTIUM: PARTNERS | PEOPLE

People

Find out more about the EQUALITY team and connect with them.

Andreas Kötter
CAPGEMINI

Andreas Kötter works since more than 12 years for Capgemini. He has long expertise in the areas of coordination, project management, innovation, international contract law, change management and intercultural management. Through >10 years of experience in coordination of several research and innovation projects financed by the European Commission and the German government he today leads the national Center of Excellence for Research and Innovation. Here, Capgemini Engineering is clustering all future related technological projects dealing with mobility, energy and pharma.

in VISIT WEBSITE >

Wael Yahyaoui
CAPGEMINI

Wael is a Technology and Innovation Specialist with several years of experience in innovation management in corporates & startups in global environments. Wael has a Proven track record in managing innovation initiatives and transformation projects, validating new business models, and shaping ecosystems that foster an innovative organisational culture, increase customer value and sustain the long-term positive impact on market changes.

in VISIT WEBSITE >

Andreas Zienert
FRAUNHOFER ENAS

Dr. Andreas Zienert (diploma in physics 2009, PhD in electrotechnical engineering 2013) has more than 10 years of experience in ab initio simulations of materials and nanoscopic devices (e.g. carbon nanotube transistors). He is working in the group of Jörg Schuster at Fraunhofer ENAS, applying quantum mechanical methods to simulate electrical, mechanical, and thermodynamic properties of materials, surfaces, and molecules, with a focus on applications in microelectronics. His research interests also cover process and equipment simulation (e.g. computational fluid dynamics to describe gas flow).

in VISIT WEBSITE >

Figure 7: EQUALITY website, segment of the "People" page in the "Consortium" section with some placeholder content.

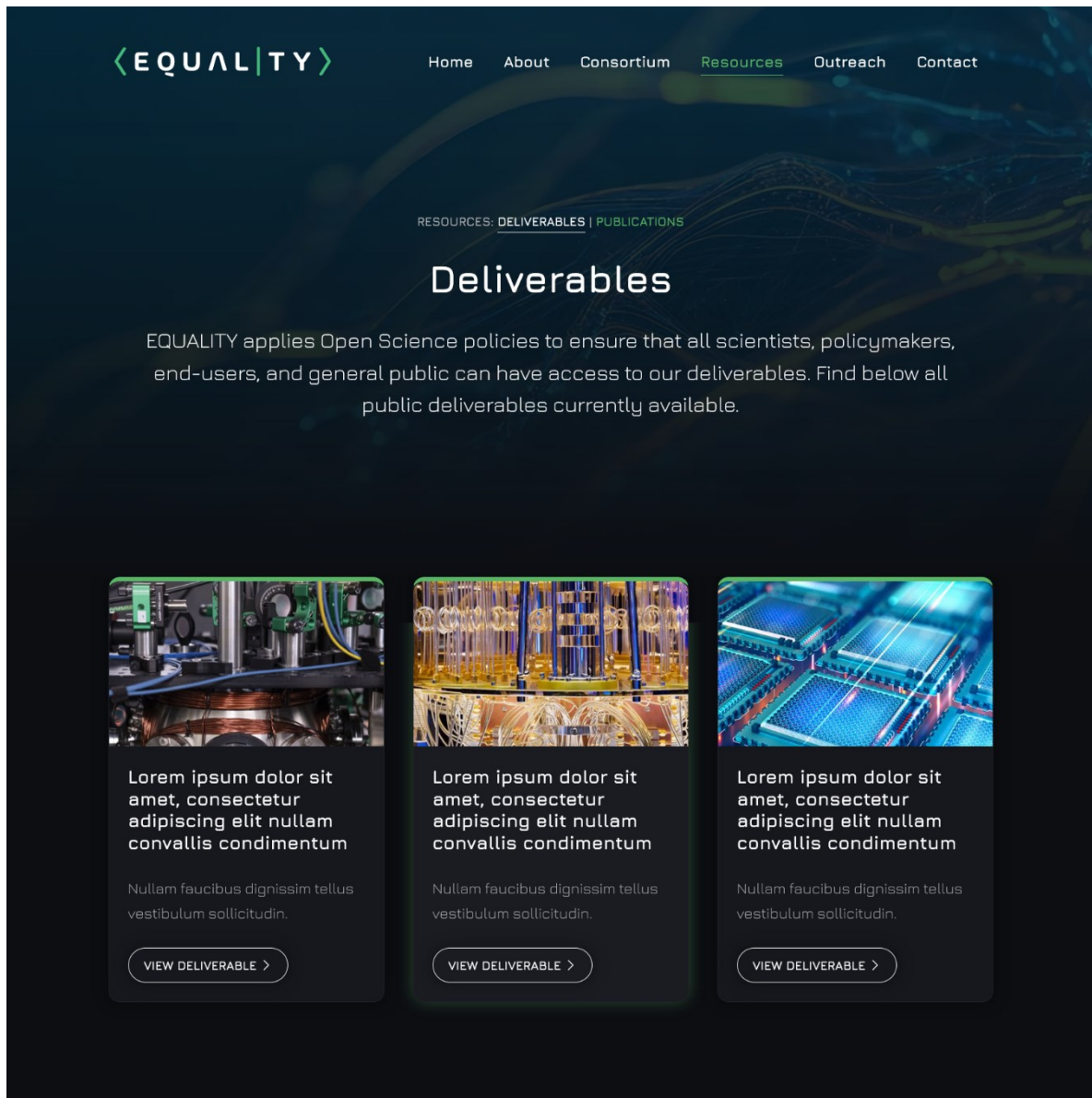


Figure 8: EQUALITY website, segment of the "Deliverables" page in the "Resources" section with placeholder content.

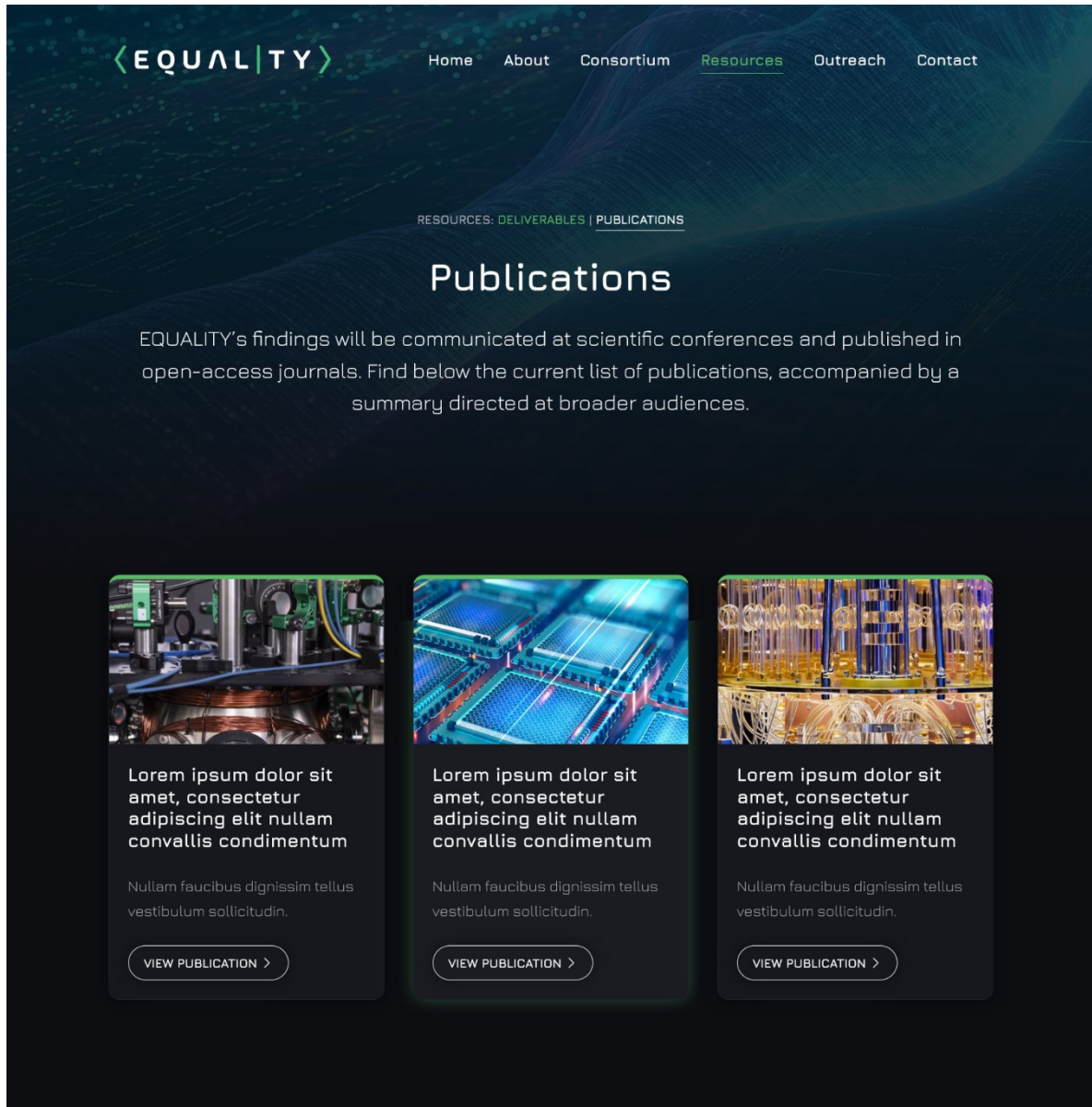


Figure 9: EQUALITY website, segment of the "Publications" page in the "Resources" section with placeholder content.

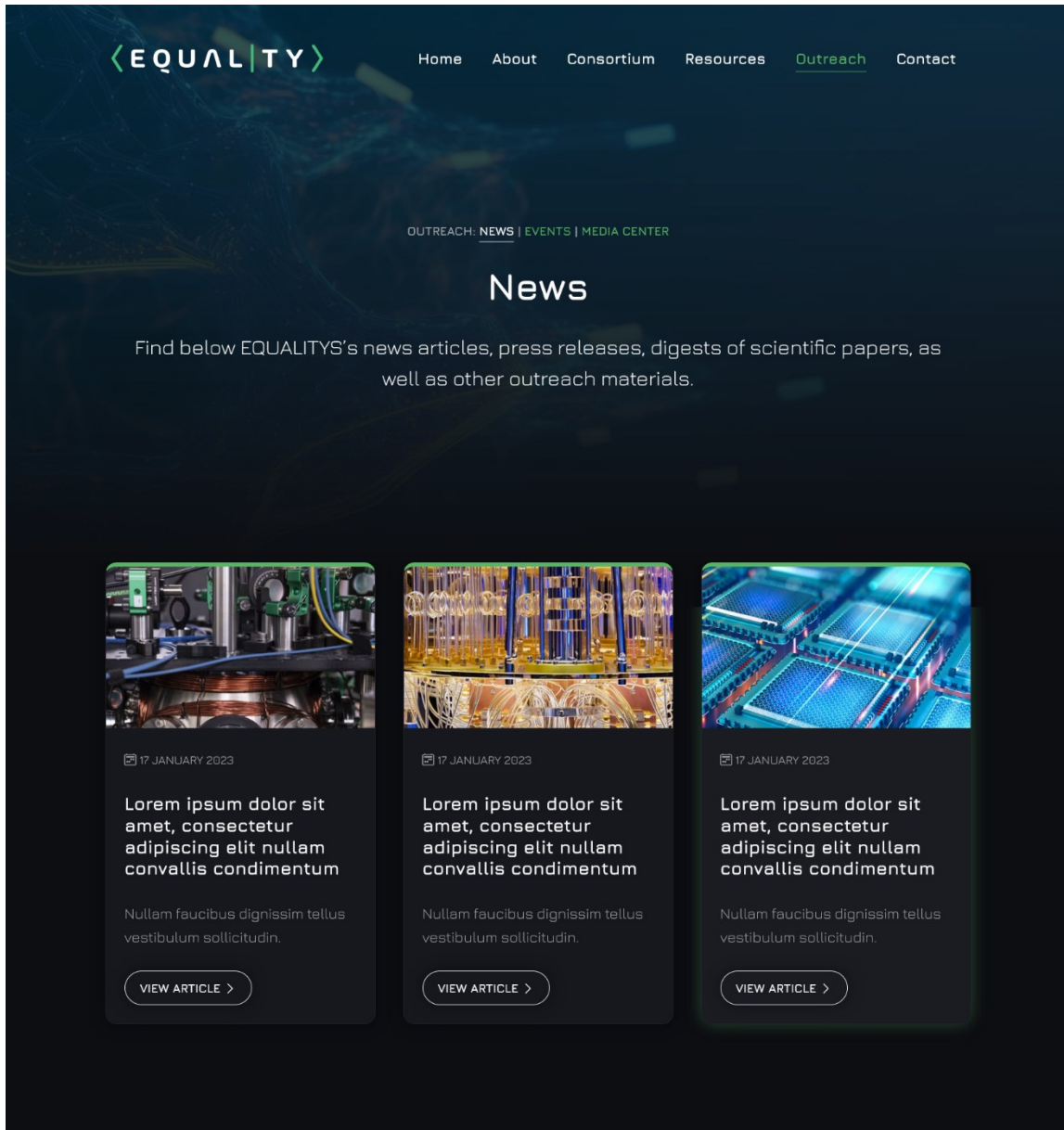


Figure 10: EQUALITY website, segment of the "News" page in the "Outreach" section with placeholder content.

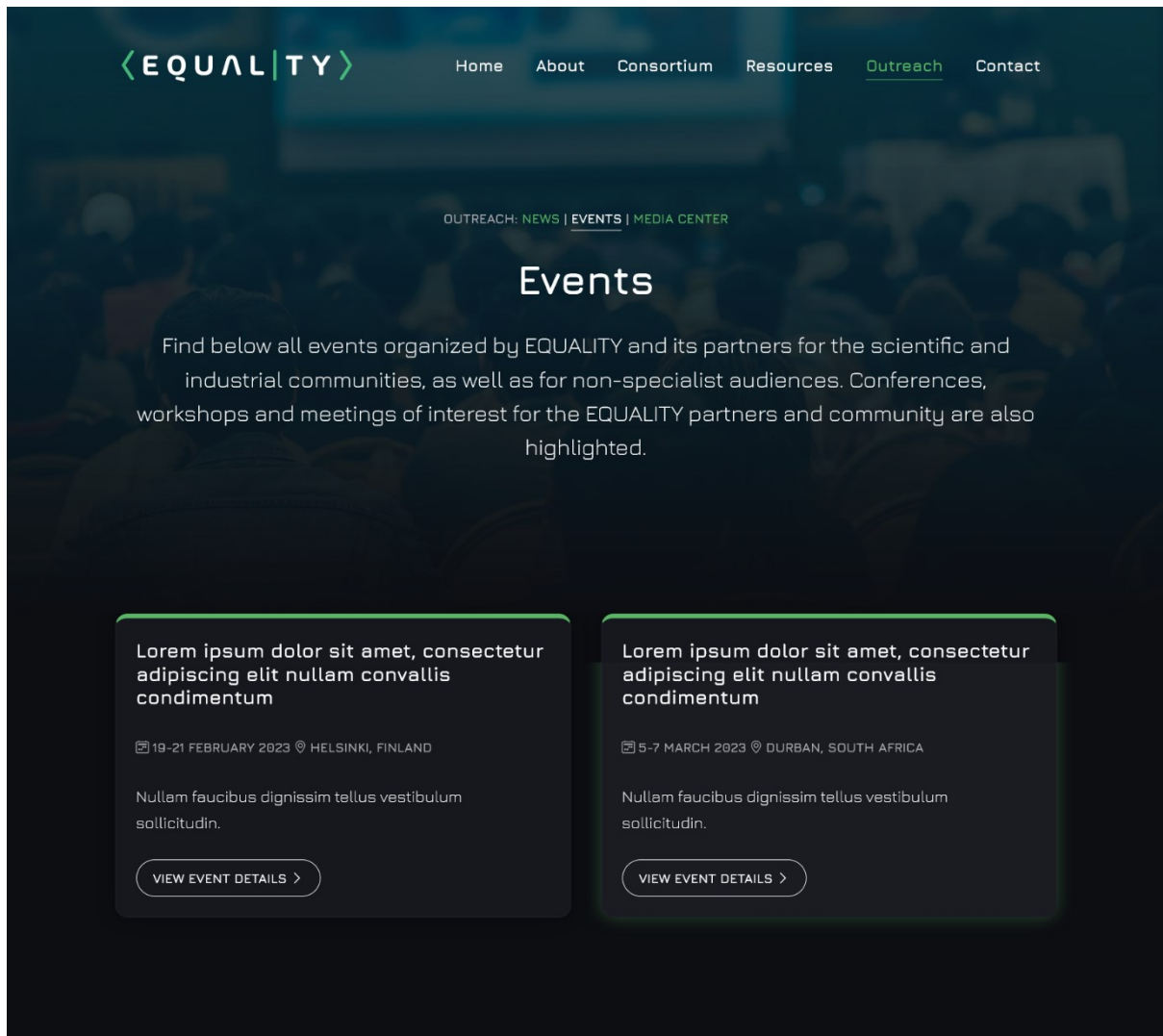


Figure 11: EQUALITY website, segment of the "Events" page in the "Outreach" section with placeholder content.

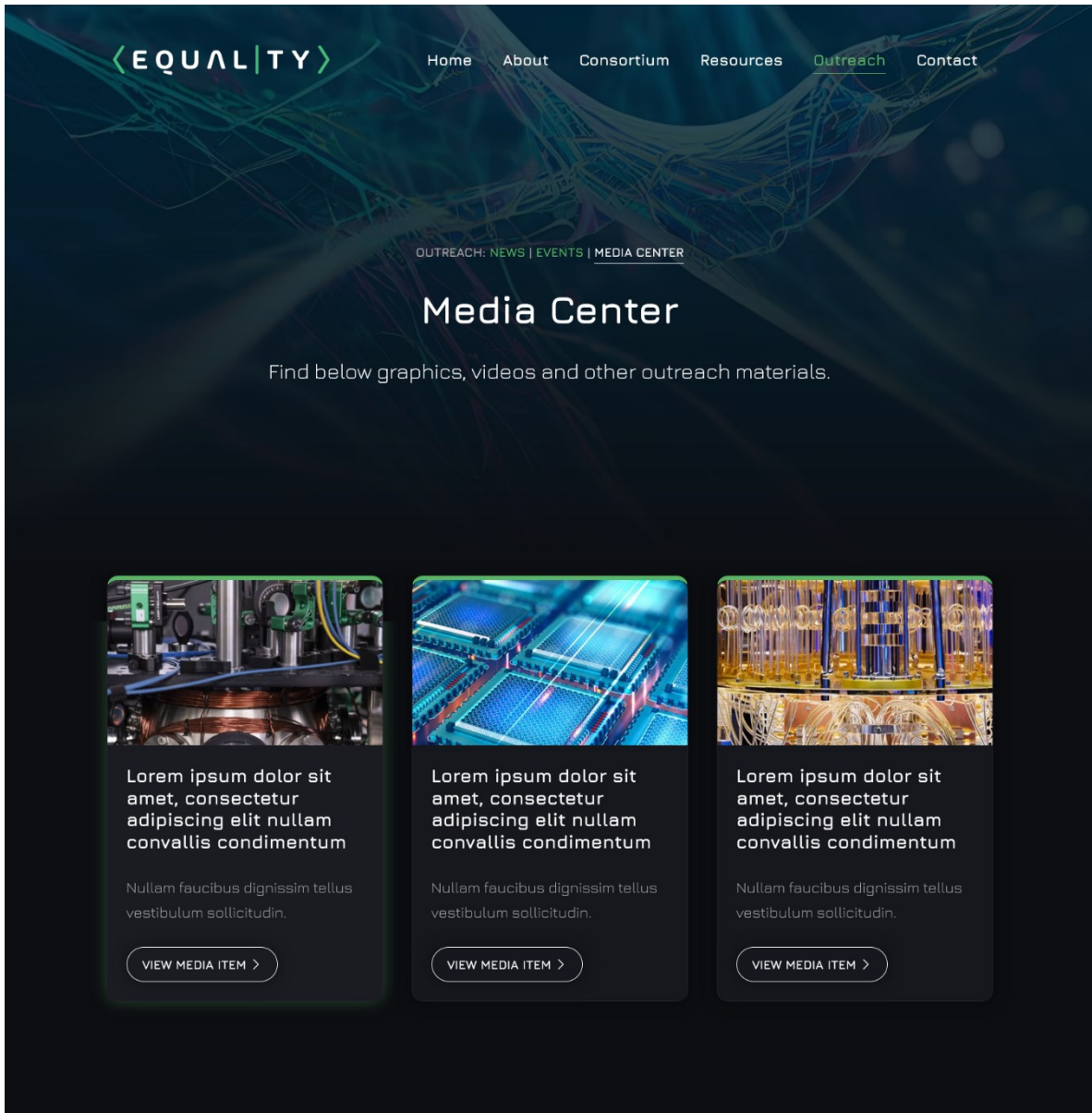


Figure 12: EQUALITY website, segment of the "Media Center" page in the "Outreach" section with placeholder content.

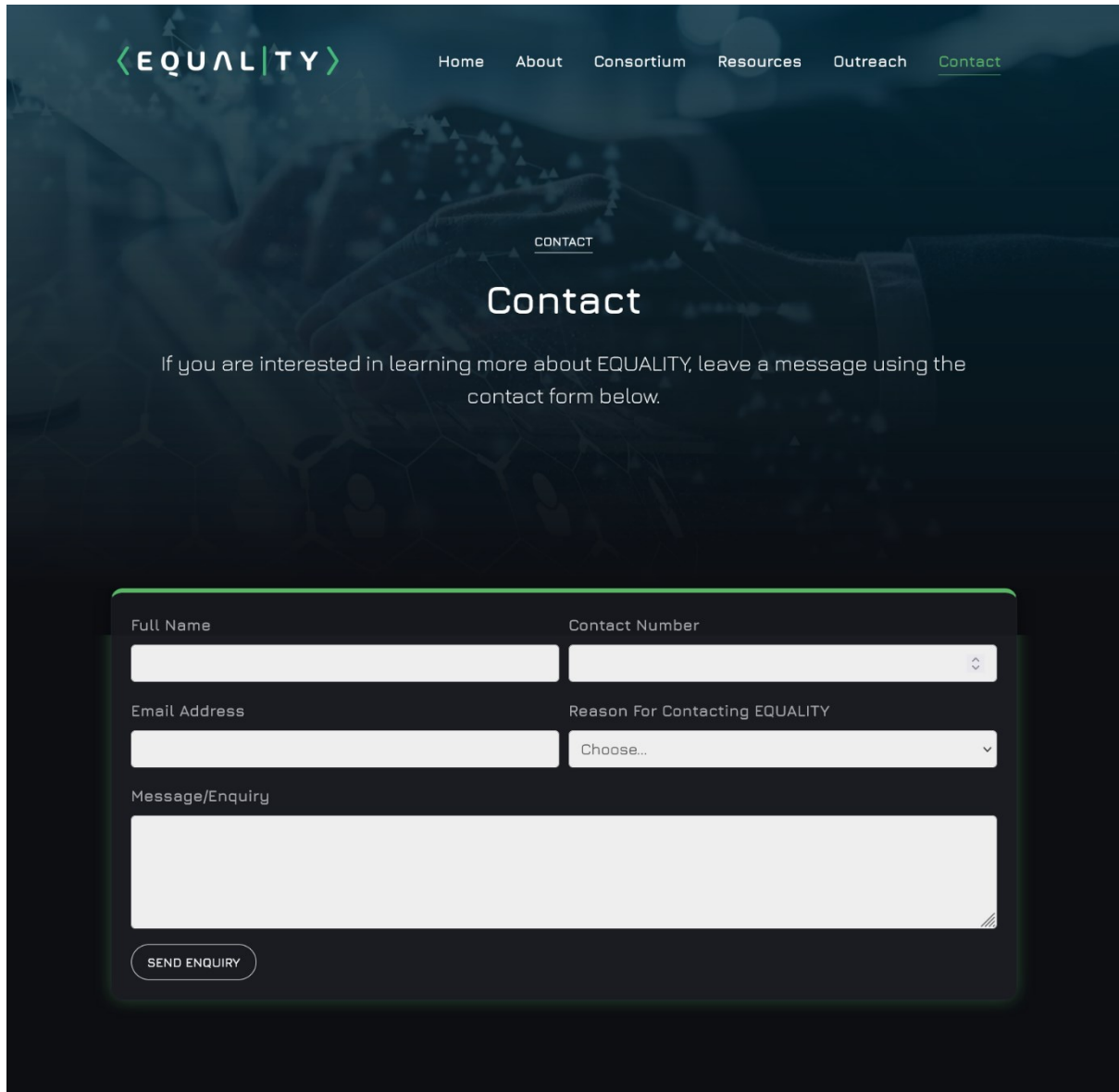


Figure 13: EQUALITY website, segment of the "Contact" page in the "Contact" section.

3. Repositories

3.1. Project Repository

A SharePoint shared directory was created at the beginning of the project and hosted by consortium partner ENAS to be an internal document repository and an online collaborative workspace. Through it, key project information is made available to all partners, such as contractual documents, templates for producing project deliverables and presentations, meeting minutes and internal presentations, among others (Figure 14).

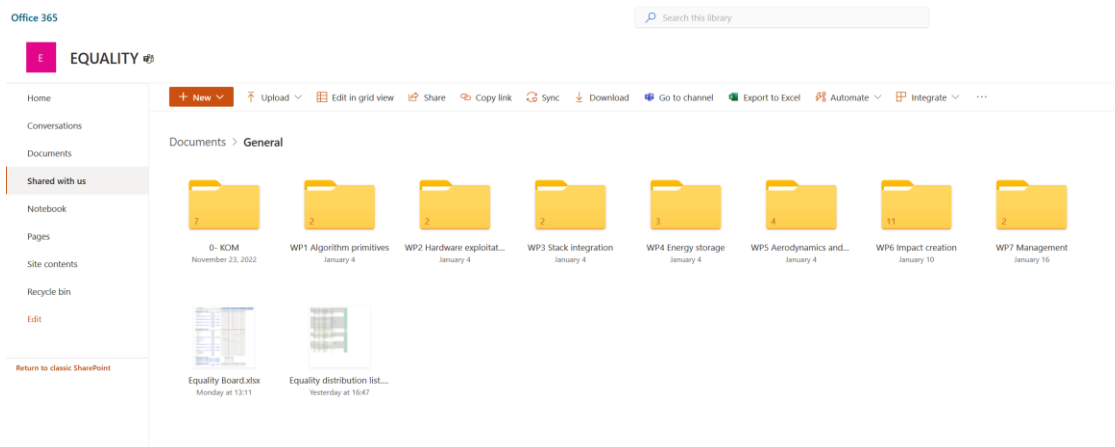


Figure 14: EQUALITY's SharePoint based shared directory.

3.2. Publication Repository

Regarding a repository for scientific information produced by the project, EQUALITY will strictly follow the open access policy, ensuring immediate online access to information that is free of charge to the end-user. Preprint versions of all articles will be deposited into multidisciplinary open access repositories, e.g., Arxiv or Zenodo. Once published in a scholarly journal or in a conference proceeding, the article's final version will be immediately posted into the institutional open repository. This open repository will automatically feed OpenAIRE with articles to ensure the largest possible impact among researchers, policymakers, and businesses. Each partner will ensure open access to the deposited publication within six months of publication, assuming an electronic version is available without extra charge via the publisher. The partners will also ensure access to the bibliographic metadata that identify the deposited publication.

3.3. Data Repository

The project will follow the open data management guidelines of the Horizon Europe Programme, as described in detail in the Data Management Plan (D7.3) at M6.

Consortium partner QC has already set-up a private Gitlab data repository for consortium partners to store, publish, and collaborate on machine-readable datasets.

Regarding the open access to data, the project will deposit the research data in a research data repository that facilitates linking publications and underlying data through persistent identifiers and data citations, such as EPOS data and service repository, of which the CSC IDA repository is an integral part. The project will enable third parties to access, mine, exploit,

reproduce and disseminate (free of charge for any user) these research data by attaching Creative Commons Licences to the data deposited. The project will provide information via the research repository about the tools available to the users that are needed to validate the results (e.g., specialised software or software code, algorithms, and analysis protocols).

To support knowledge dissemination and impact creation, the consortium will publish information about project deliverables and related datasets on the project website. If the deliverables are labelled as "Public" through the definition of the governing data licenses and as provided in project deliverables table, a publishable version of the document will be produced and shared via the same mechanisms in all other cases.