PHAETHON
CENTRE OF EXCELLENCE
Intelligent | Sustainable | Energy

PHAETHON CoE
Brand Book

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FOSS Evolving to Phaethon

PHAETHON is a “Teaming for Excellence” Horizon Europe project that will lead to the establishment of the PHAETHON Centre of Excellence (CoE) for Research and Innovation in the field of Intelligent, Efficient and Sustainable Energy Solutions, signaling in parallel the evolution and upgrade of the existing FOSS Research Centre for Sustainable Energy at the University of Cyprus.

Similarly, the PHAETHON logo is an evolution of the FOSS logo; the copper orange colour is turning to "verdigris", the bluish-green colour copper changes into when it matures. The new font, its colour and weight, are now bolder to reflect the Centre's bolder ambitions.

Phaethon Centre of Excellence Logo

Long version/ Main version

This is the main version of the logo used more often.

Short version

This version of the logo can be used when the “main version” has already been used and the logo needs to be repeated, i.e. in the header of a document from page 2 onwards.

Phaethon Centre of Excellence Logo Colour Variations

Full Colour

Greyscale

Monochrome

Phaethon Teaming Project Logo

This logo is used in deliverables that refer to the Phaethon Teaming Project.

Phaethon Teaming Project Logo
Colour Variations

Full Colour

Greyscale

Monochrome

Sub Units Logo Design

Stationery Design

Business Cards

General Purpose / Single Role

Including only the PHAETHON CoE role.

Dual Role

Including both PHAETHON CoE and University of Cyprus roles.

Letterhead Design

PHAETHON
CENTRE OF EXCELLENCE
Intelligent | Sustainable | Energy

PHAETHON CoE 01/20052024

[Insert Date 00/00/0000]

[Recipient's Name Surname]
[Insert Recipient's Address]
[Address line 2]
[Address line 3]
[Address line 4]

Dear Name Surname,

Subject: Here is a subject line.

The Centre of Excellence will generate an effective R&I culture in Cyprus and the surrounding region, promoting effective cooperation between academia, industry and business sectors, as well as contributing to the transfer of knowledge from advanced European clusters to the region. The Centre will create a test-bed and living lab in the areas of energy and sustainability and will be a major driver to facilitate commercialization of innovation in energy-related fields in Cyprus, Europe and MENA.

Education and awareness work on sustainable energy matters and promotion of active involvement of consumers in local energy production using RES. In the FOSS significant research expertise from the University of Cyprus as well as from industry has been assembled that spans a host of fields: Electrical, Mechanical, Civil, Environmental, Chemical engineering, to Physics, Chemistry, Economics, Finance, as well as Architecture.

The FOSS team aims, with the development of the necessary synergies, to create the impetus for the advancement of the field of energy. Members of the Centre represent Cyprus in European Energy Committees such as the Energy Committee for the FP7, the Horizon 2020, the SET Plan, the Solar Energy Industrial Initiative, the European Smart Grid Technology Platform, the European Standards Committees on PV and the EU PV Mirror Group. Furthermore, the FOSS staff act as expert evaluators for predominantly Energy Proposals within the FP7 and other National initiatives.

Last, but not least, the researchers comprising the working team have extensive experience in grant proposal applications and have acquired funding for a range of research topics through the EU, the National Research Funding Agency in Cyprus as well as industry.

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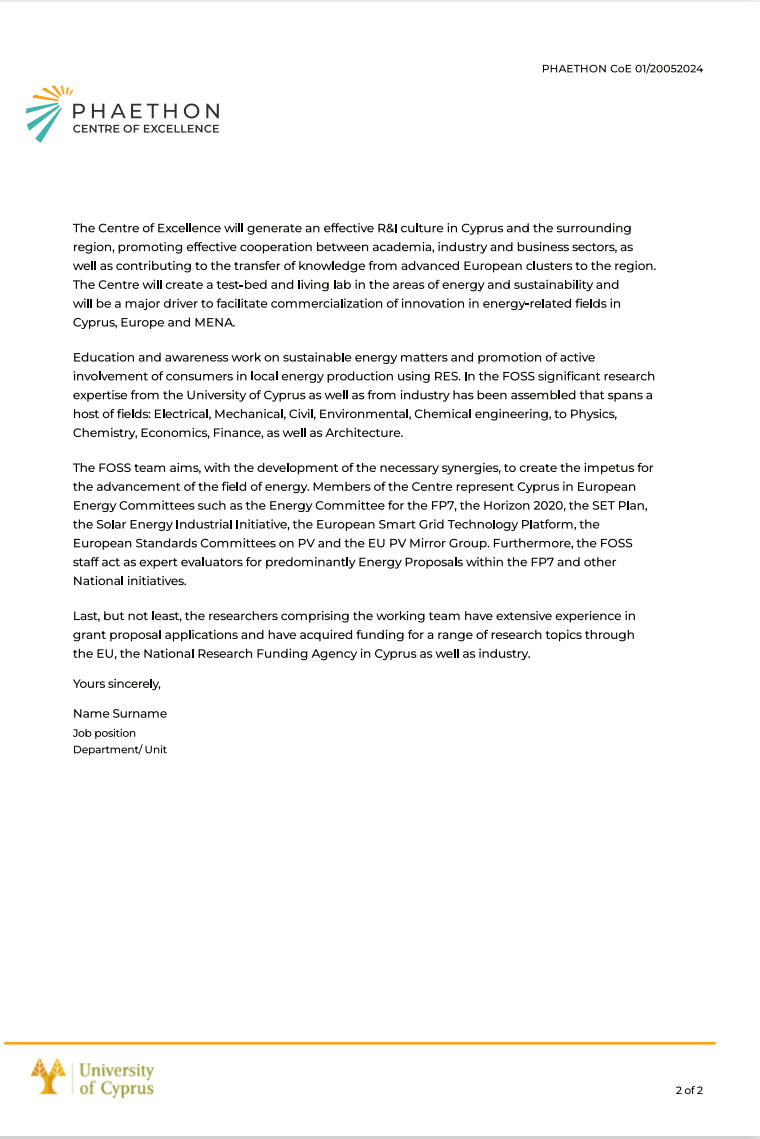
University of Cyprus

University of Cyprus
1 Panepistimiou Avenue
2109 Aglantzia, Nicosia, Cyprus

+357 22 894 321
phaethon@ucy.ac.cy
www.phaethon-coe.eu

1 of 2



PHAETHON
CENTRE OF EXCELLENCE

PHAETHON CoE 01/20052024

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Yours sincerely,

Name Surname
Job position
Department/ Unit

University of Cyprus

2 of 2

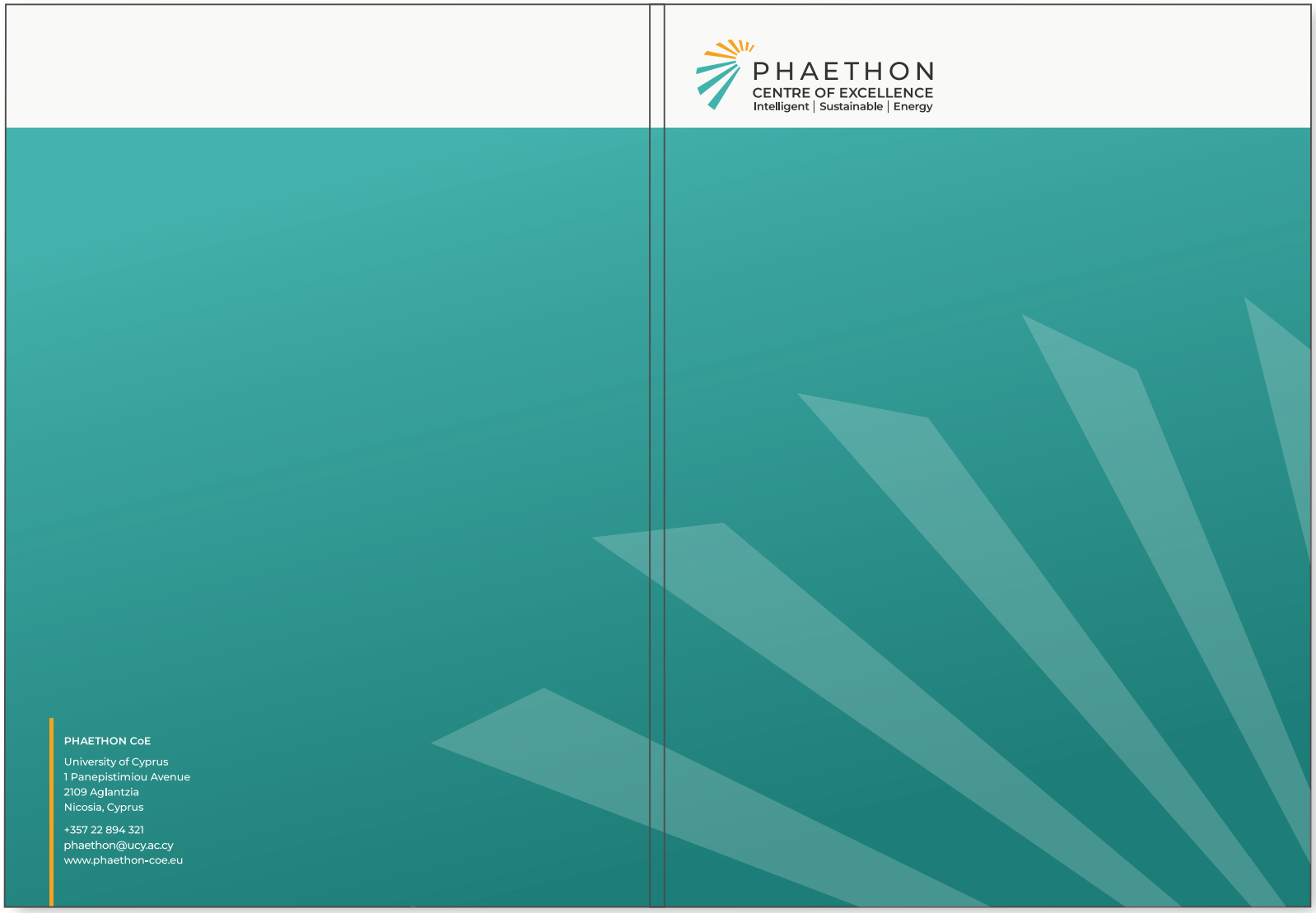
Envelope Design

A4 size

DL size

CoE Folder Design

Back & Front Cover (Open)

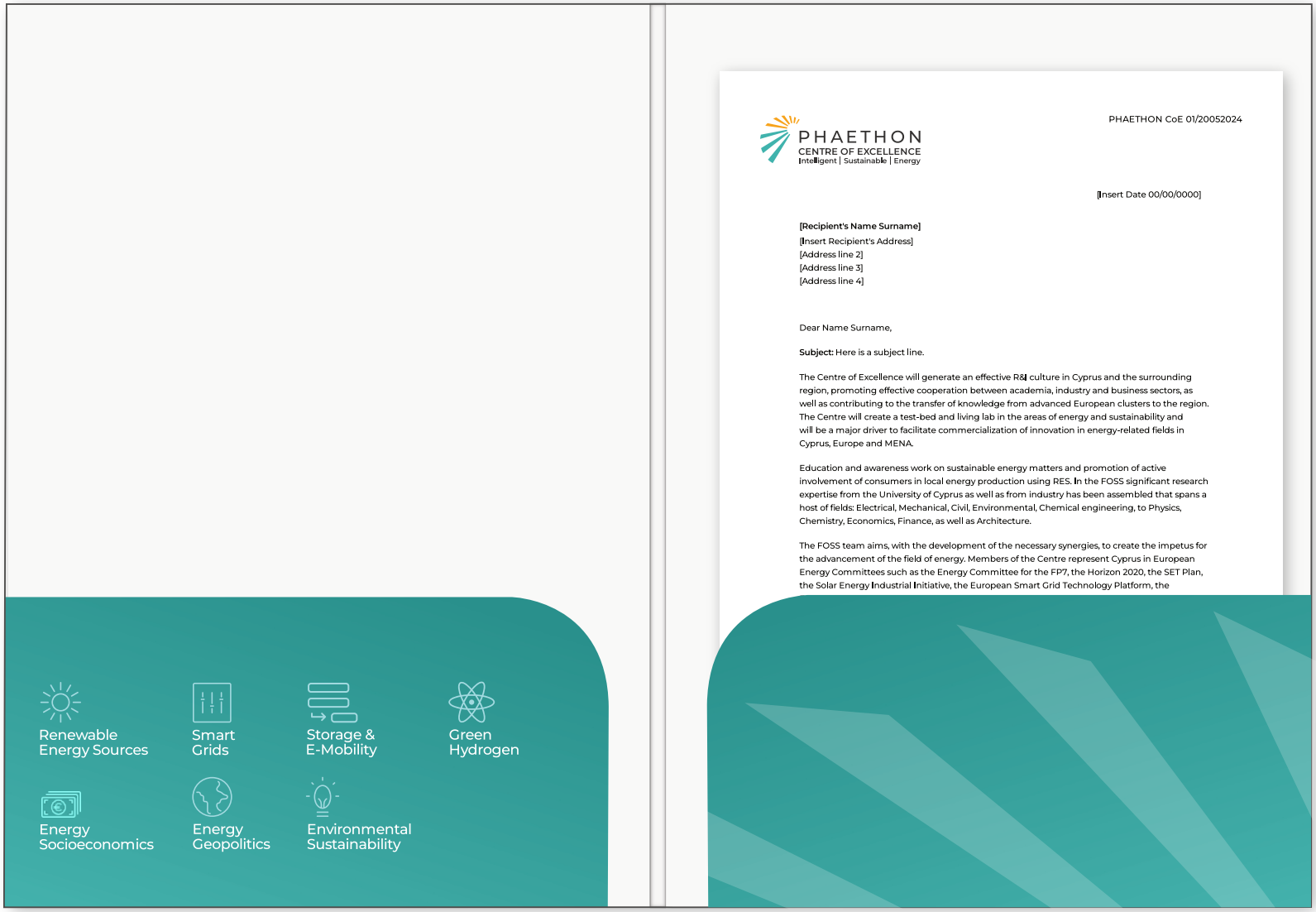


Hybrid Folder Design

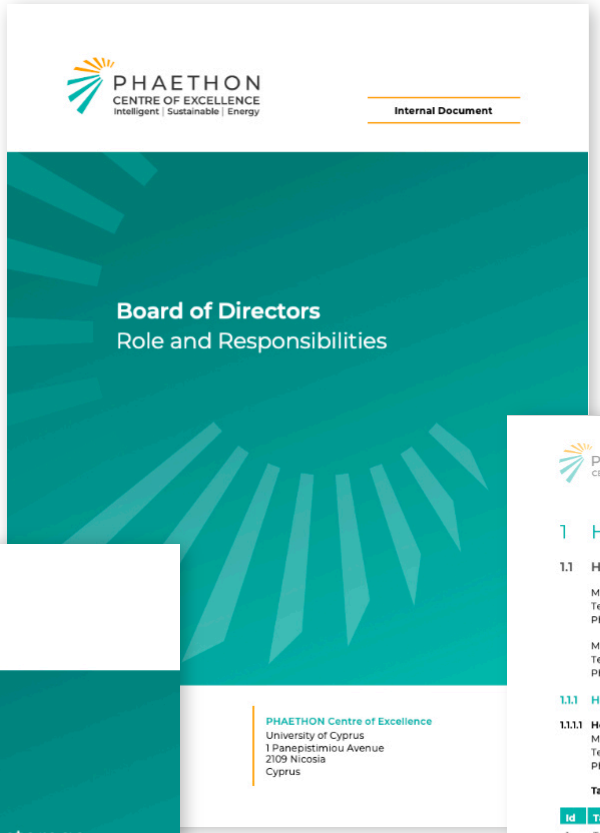
Back & Front Cover (Open)

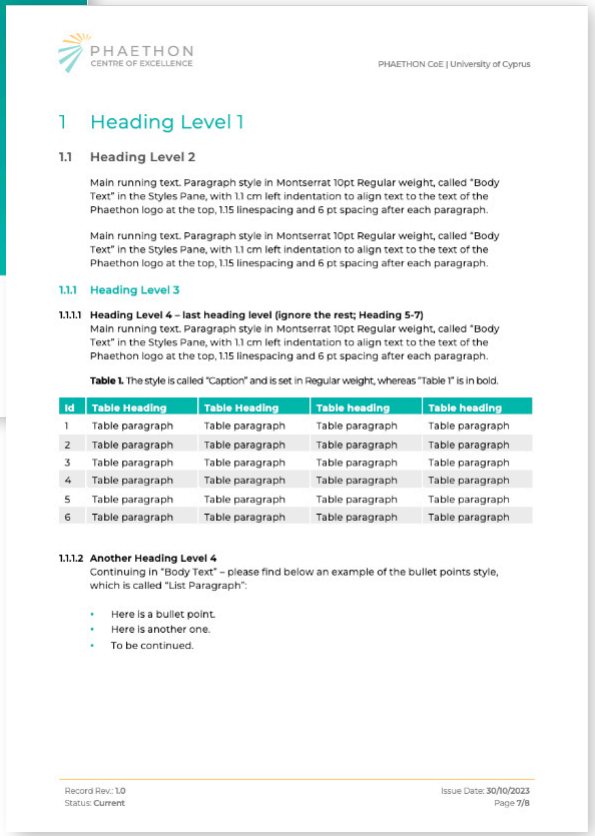
CoE & Hybrid Folder Design

Inside (Open)

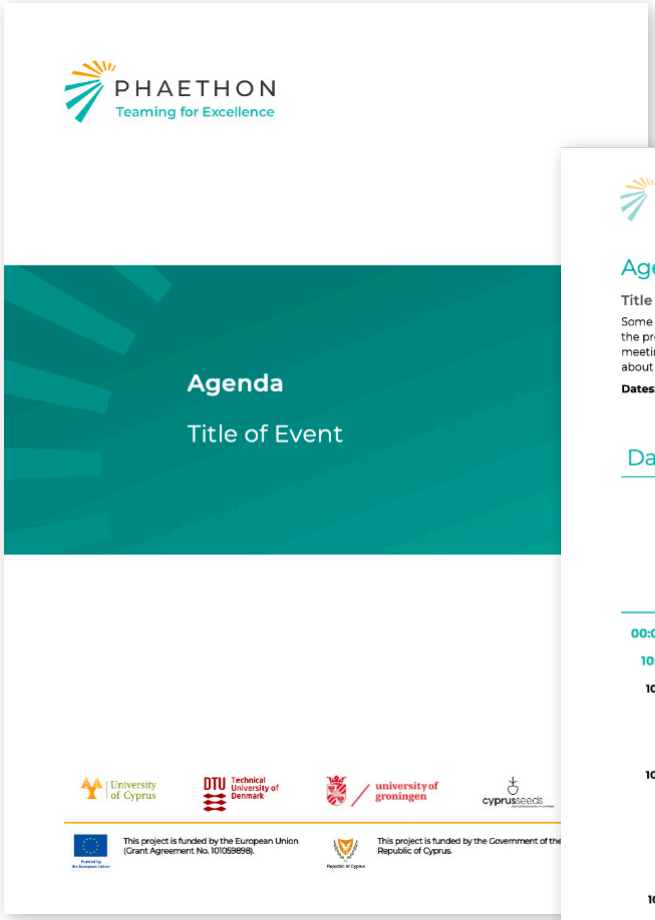


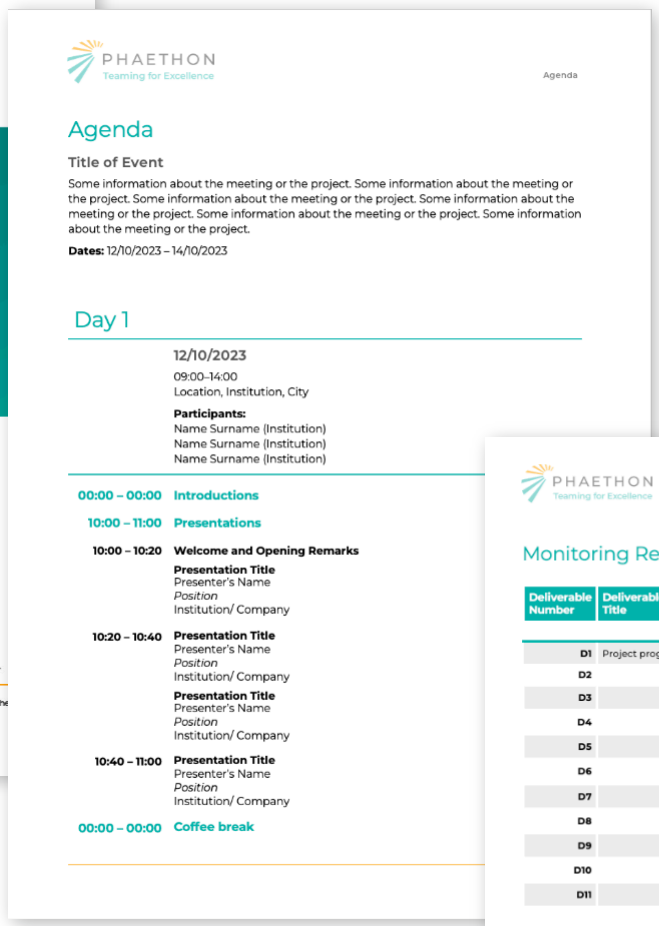
CoE Documents Templates

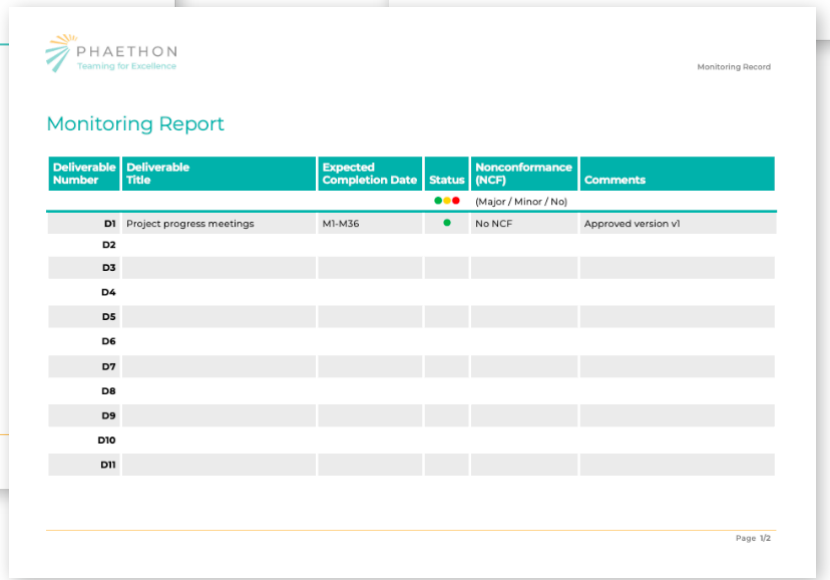


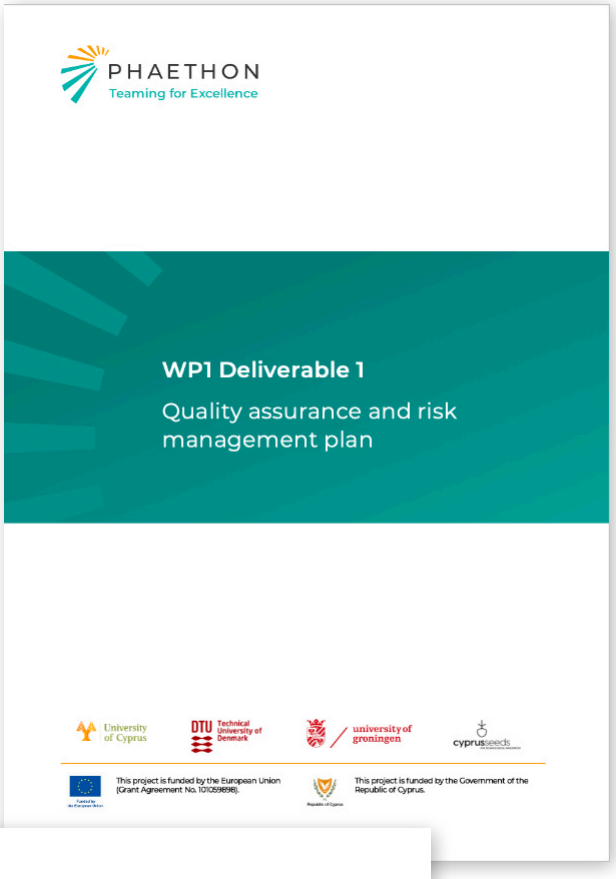


Teaming Project Documents Templates









Whitepaper Design

PHAETHON
CENTRE OF EXCELLENCE
Intelligent | Sustainable | Energy

University of Cyprus

Whitepaper
Arc fault circuit interrupter and rapid shutdown field tests

HUAWEI

A collaborative output between the University of Cyprus PHAETHON CoE and Huawei.

Background

Solar photovoltaic potential

The proliferation of distributed solar photovoltaic (PV) systems is experiencing rapid acceleration. In the year 2022, distributed PV, denoting small-scale solar PV installations catering to residential, commercial, industrial, and off-grid applications, constituted 48% of the total global solar PV capacity expansions, marking the highest annual growth rate on record [1].

Projections from the International Energy Agency's (IEA) latest Renewable Energy Market Update suggest that the annual growth of distributed PV is poised to intensify further over the upcoming two years. Moreover, by the year 2024, solar PV is anticipated to attain a capacity of 140 gigawatts, reflecting a growth surge exceeding 30% in comparison to 2022 levels [1]. The global distributed solar PV net additions per year 2017–2024 depicted in Fig. 1, verifies the fact that the technology is accepted and integrated at high shares worldwide.

The European Green Deal (EGD) stands as a landmark initiative devised by the European Union (EU) to steer the continent towards a sustainable and carbon-neutral future. This comprehensive strategy outlines ambitious goals spanning various sectors, including energy, transport, agriculture, and industry, aiming to achieve net-zero greenhouse gas emissions by 2050. At its core, the EGD envisions a profound transformation of Europe's economy, fostering green growth, enhancing resource efficiency, and ensuring social inclusivity. Integral to this vision is the Repower EU initiative, a key component designed to revamp the EU's energy infrastructure, bolster renewable energy deployment, and fortify energy security. Repower EU seeks to accelerate the transition towards clean energy by investing in renewable technologies, upgrading energy grids, and promoting energy efficiency measures. Together, the EGD and Repower EU signify the EU's commitment to combatting climate change, fostering sustainable development, and leading the global transition towards a greener future.

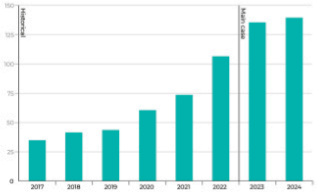


Figure 1
Global distributed solar PV net additions per year (2017–2024) [1].

Renewables and efficiency are key to drive fossil fuel demand down. To align with the urgent transformation need for a sustainable and secure energy supply, European nations have implemented a greater number of policy and regulatory adjustments aimed at streamlining permitting processes than throughout the entire preceding decade. While permitting has emerged as a central policy priority in Europe to expedite the rollout of solar PV projects, initial positive outcomes are beginning to manifest. As presented in Fig. 2 solar PV additions are forecast to more than double by 2028 compared with 2022, continuously breaking records over the forecast period to reach almost 710 GW [2].

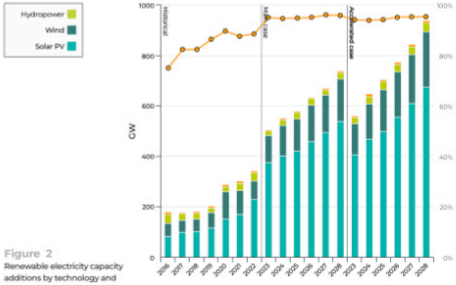


Figure 2
Renewable electricity capacity additions by technology and segment, 2016–2028 [2].

> Technica

Huawei AFCI and RSD technology solution

To address the threat posed by DC a
effective method is to stop the current
DC side by disconnecting the inverter.
developed an innovative solution for m
arc faults, utilising advanced artificial in
technology for arc detection. Integr
Huawei's inverters, the AFCI combi
functions into a single solution, the
space and reducing additional installation costs.
This technology is featured in Huawei's SUN2000 inverter series and can be seamlessly integrated with Smart PV Optimisers. Together, they offer pinpoint arc fault detection and rapid shutdown functionality, particularly when the system is fully configured with optimisers. This comprehensive solution ensures safety in commercial, industrial (C&I), and residential applications.

learning capabilities enable it to continuously learn unknown spectra, thereby enhancing the device's adaptability to noise, as presented in Fig. 4. These features have significantly improved the AFCI's ability to distinguish DC arcs from other characteristics, reducing the occurrence of false alarms commonly experienced with traditional methods. The AFCI device solution is designed to monitor the electrical waveform and identify

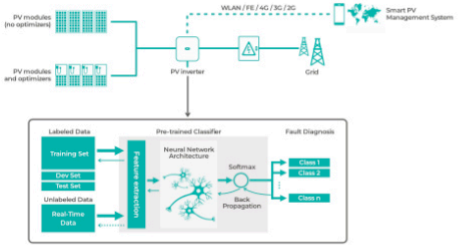


Figure 4
AI BOOST AFCI smart arc detection method block diagram.

enhancing safety by quickly detecting and interrupting arc faults.

- **System integrity** – By default, the AFCI function is activated and can only be adjusted locally via the FusionSolar App. This limitation prevents unauthorized alterations to critical parameters, ensuring system integrity. Sensitivity settings are customizable and the option for temporary disabling the feature to facilitate related testing procedures is provided.
- **AI deep learning** – By leveraging AI principles the arc characteristics are continuously learned and analyzed in order to correctly distinguish arc conditions and adapt to different environmental conditions.
- **Noise differentiation** – Through its AI and deep learning capabilities, the AFCI continuously learns from unknown spectra, enhancing its ability to adapt to various noise levels. This advancement significantly improves the device's capability to differentiate DC arcs from other characteristics that often trigger false alarms in traditional detection methods.
- **Fast response and adaptability** – DC arcs tend to be more stable and can persist for longer durations compared to AC arcs. This prolonged duration may lead to greater damage and increased safety risks if not detected promptly. In the event of a DC arc, the AFCI promptly shuts down the inverter operation within milliseconds, as corroborated by various technical reports. These response times significantly exceed the safety thresholds outlined in standards such as UL3699B, and IEC 63027, which mandate a maximum response time of 2.5 seconds.

personnel, property, and neighbouring structures. By promptly cutting off the flow of electricity from the PV array to the rest of the system, the RSD technology helps prevent the escalation of arcing incidents, safeguarding both the integrity of the PV installation and the surrounding environment. Both AFCI and RSD solutions have been demonstrated as effective and efficient in multiple technical reports from independent certification organizations.

Digital Use

CoE Email Signature

General Purpose / Single Role

Including only the PHAETHON CoE role.

Name Surname (BA, MA)
Position
Department / Unit

University of Cyprus
1 Panepistimiou Avenue
2109 Aglantzia, Nicosia, Cyprus

+357 22 XXX XXX
surname.name@ucy.ac.cy
phaethon-coe.eu

Find us on

PHAETHON CoE is a Research and Innovation Centre at the University of Cyprus.

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You should note that email is susceptible to data corruption, unauthorized amendment, and interception by unauthorized third parties for which we accept no liability. If you reply to this email sending confidential information and personal data which are governed by the Regulation (EU) 2016/679 "General Data Protection Regulation", these will be for exclusive collection and process by Phaethon CoE based on relevant internal Policy for the Protection of Personal Data which is located on the Centre's website (http://www.xxxxxx).

All reasonable precautions have been taken to ensure that this email neither contains nor transmits any viruses and we recommend that you ensure that your anti-virus programmes and procedures are up to date.

Dual Role

Including both PHAETHON CoE and University of Cyprus roles.

Name Surname (BSc, MEng, PhD)
Position
Department / Unit

Academic rank
Department of X
University of Cyprus

University of Cyprus
1 Panepistimiou Avenue
2109 Aglantzia, Nicosia, Cyprus

+357 22 XXX XXX
surname.name@ucy.ac.cy
phaethon-coe.eu

Find us on

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Social Media Pages

PHAETHON CoE Pages

X / Twitter

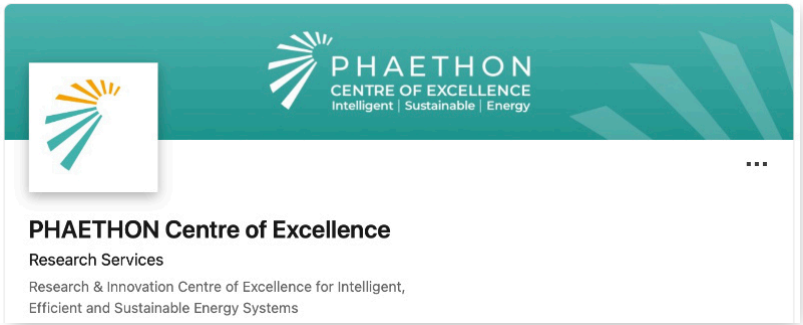
name: PHAETHON Centre of Excellence
handle: @PHAETHONCoE
https://twitter.com/PHAETHONCoE

Facebook

name: PHAETHON-Centre of Excellence
handle: @PHAETHONCoE
https://www.facebook.com/PHAETHONCoE

LinkedIn

name: PHAETHON Centre of Excellence
handle: @PHAETHONCoE
https://www.linkedin.com/company/phaethoncoe/



PHAETHON Teaming Project Pages

X / Twitter

name: PHAETHON Teaming Project
handle: @teamingphaethon
https://twitter.com/teamingphaethon

LinkedIn

name: PHAETHON Teaming Project
handle: @teaming-phaethoncoe
https://www.linkedin.com/showcase/teaming-phaethoncoe/

Social Media Posts

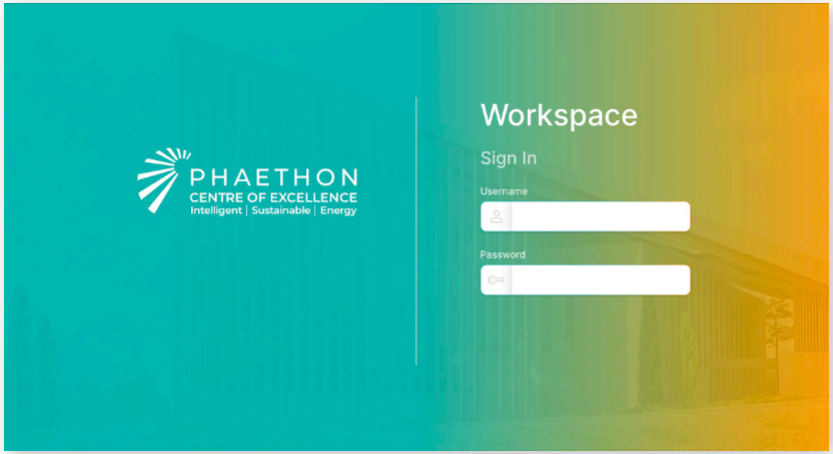
Posts advertising job vacancies on social media.

Internship Programme Promotion

Social media post and email promoting the summer internship programme.

Online Workspace and Teams Backgrounds

Workspace "Log In" Web Page



Teams Background Options

PowerPoint Presentation Templates

CoE Presentations

PHAETHON
CENTRE OF EXCELLENCE
Intelligent | Sustainable | Energy

PHAETHON Teaming Project

WP1 – Project management and coordination

George Makrides
Special Scientist
University of Cyprus
PHAETHON Centre of Excellence

PHAETHON
CENTRE OF EXCELLENCE
Intelligent | Sustainable | Energy

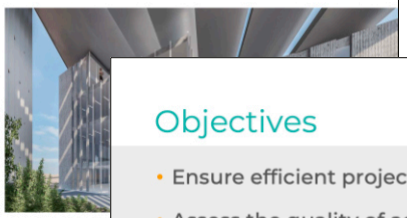
PHAETHON Teaming Project

WP1 – Project management and coordination

George Makrides
Special Scientist
University of Cyprus
PHAETHON Centre of Excellence

Outline

- Overview
- Aim & Objectives
- Implementation
- Deliverables & Milestones
- Summary



PHAETHON
CENTRE OF EXCELLENCE
10/01/2024

Objectives

- Ensure efficient project operation and coordination.
- Assess the quality of activities and monitor risks.
- Manage data collected and generated by the project.
- Ensure compliance with European ethical, fundamental rights and legal framework.
- Promote gender equality and gender processes.

PHAETHON
CENTRE OF EXCELLENCE
10/01/2024
Insert Title of Presentation 5

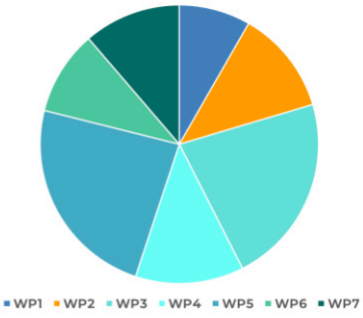
Overview

Lead Beneficiary: 1-UCY

Participants: 2-DTU | 3- UG | 4-CS

Effort: 168 PMs | 8.3%
UCY: 135 | DTU: 10 | UG:13 | CS: 10

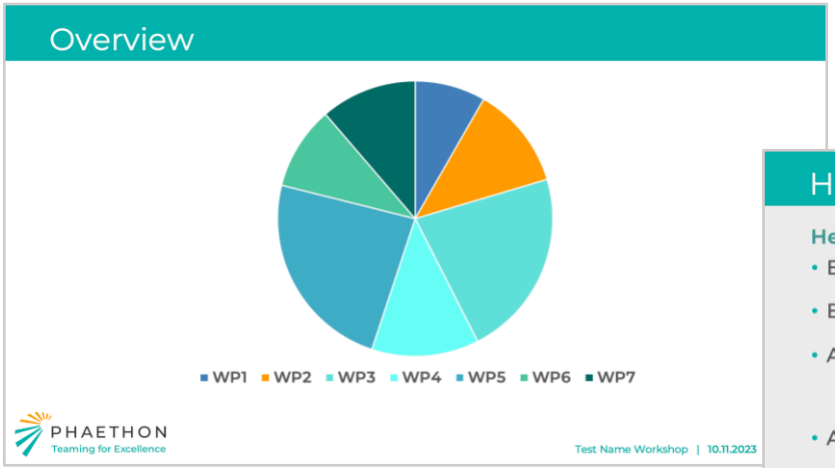
Timeline: Sep 2023 – Aug 2029
(72 Months)

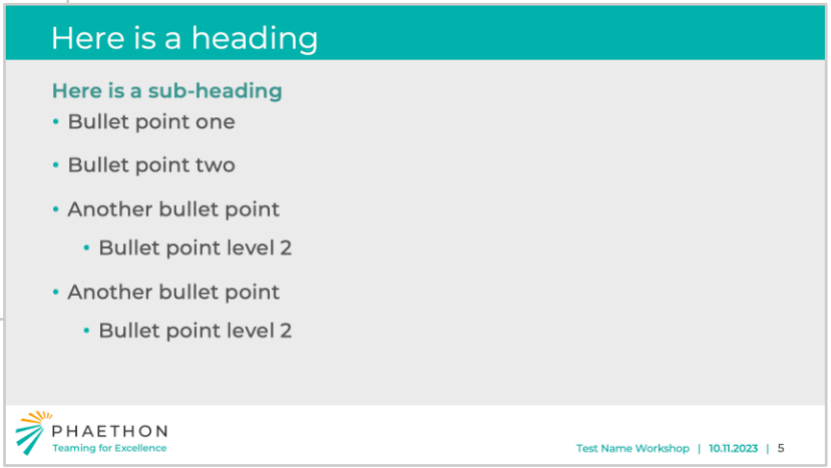


PHAETHON
CENTRE OF EXCELLENCE
10/01/2024
Insert Title of Presentation 6

PowerPoint Presentation Templates

Teaming Project Presentations





Visual Guidelines

Brand Colours

Primary Colour Palette

Logo Colours

#43B3AE
"Logo Verdigris"

#F7A400
"Logo Orange"

#333333
"Logo Grey"

#000000

#333333

#575757

#EDEDED

#FFFFFF

#467D7A

#1C918B

#43B3AE

#8EBDBB

#D4EFEE

Examples

Text colour usage

Example in #000000

Text #000000 on #F7A400

Text #FFFFFF on #43B3AE to #F7A400 gradient

Example in #467D7A

Text #FFFFFF on #43B3AE

Text #FFFFFF on #1C918B to #43B3AE gradient

Example in #1C918B

Text #FFFFFF on #333333

Text #000000 on #D4EFEE

Text #000000 on #EDEDED

Brand Colours

Secondary Colour Palette

These colours can be used in graphs, infographics, data visualisations etc.

#21A368

#2A4999

#7F135F

#C27844

#57D99D

#4F7EBA

#F424B4

#F57C25

#20D111

#60AAC6

#7C11D1

#F5AE00

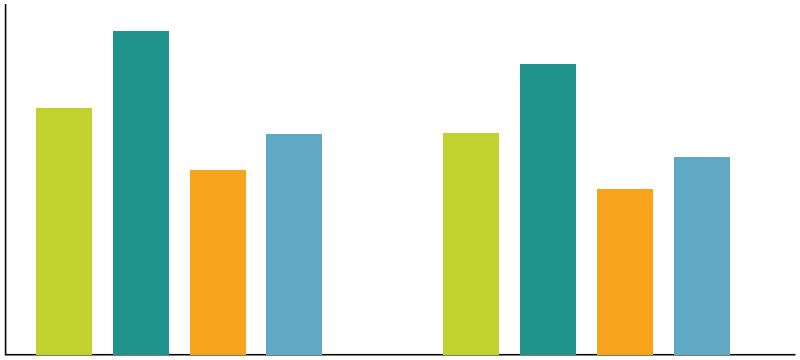
#C1D111

#8EFCF6

#BB11D1

#F5D73C

Brand Colours Examples



Renewable Energy Sources

Energy Geopolitics

Energy Socioeconomics

Storage & E-Mobility

Environmental Sustainability

Brand Fonts

The font used throughout the Phaethon brand is **Montserrat**, available for free download at Google Fonts:
fonts.google.com/specimen/Montserrat

The styles used so far are the following:

Montserrat Regular 400

Montserrat Regular 400 Italic

Montserrat Medium 500

Montserrat SemiBold 600

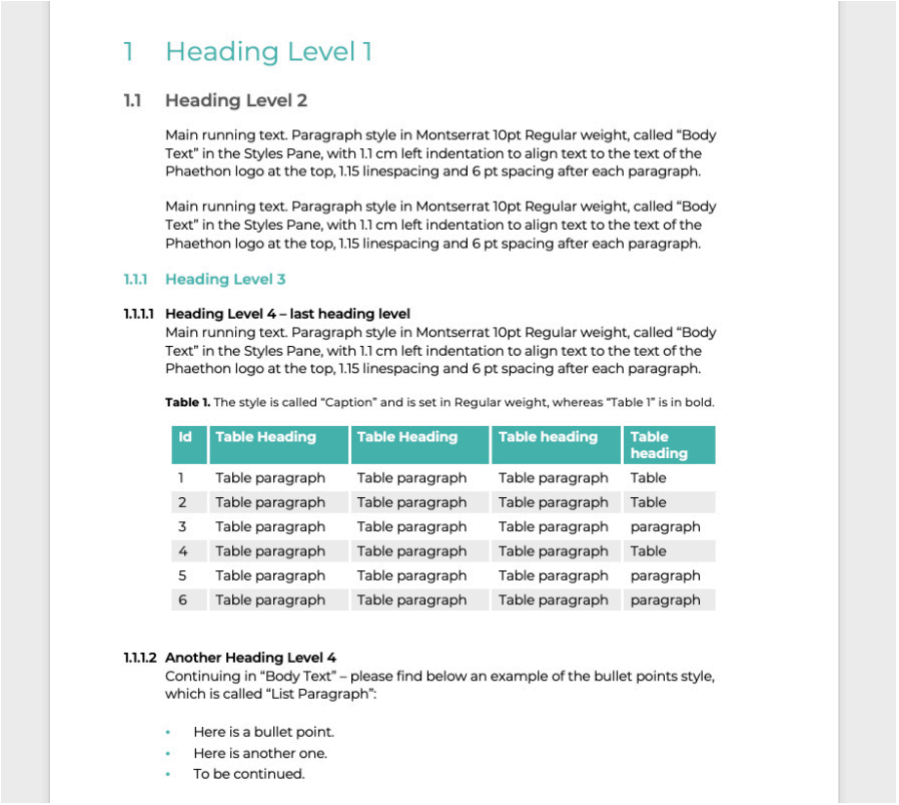
Montserrat Bold 700

Whenever Montserrat is not available, the secondary font choice is **Helvetica.**

Helvetica Regular
Helvetica Oblique
Helvetica Bold

All templates, like Word document templates and PowerPoint templates, include style sheets of recommended font sizes, weights, spacing and colours for headings, main text, emphasis etc.

Here is an example:



1 Heading Level 1

1.1 Heading Level 2

Main running text. Paragraph style in Montserrat 10pt Regular weight, called "Body Text" in the Styles Pane, with 1.1 cm left indentation to align text to the text of the Phaethon logo at the top, 1.15 linespacing and 6 pt spacing after each paragraph.

Main running text. Paragraph style in Montserrat 10pt Regular weight, called "Body Text" in the Styles Pane, with 1.1 cm left indentation to align text to the text of the Phaethon logo at the top, 1.15 linespacing and 6 pt spacing after each paragraph.

1.1.1 Heading Level 3

1.1.1.1 Heading Level 4 – last heading level

Main running text. Paragraph style in Montserrat 10pt Regular weight, called "Body Text" in the Styles Pane, with 1.1 cm left indentation to align text to the text of the Phaethon logo at the top, 1.15 linespacing and 6 pt spacing after each paragraph.

Table 1. The style is called "Caption" and is set in Regular weight, whereas "Table 1" is in bold.

Id	Table Heading	Table Heading	Table heading	Table heading
1	Table paragraph	Table paragraph	Table paragraph	Table
2	Table paragraph	Table paragraph	Table paragraph	Table
3	Table paragraph	Table paragraph	Table paragraph	paragraph
4	Table paragraph	Table paragraph	Table paragraph	Table
5	Table paragraph	Table paragraph	Table paragraph	paragraph
6	Table paragraph	Table paragraph	Table paragraph	paragraph

1.1.1.2 Another Heading Level 4

Continuing in "Body Text" – please find below an example of the bullet points style, which is called "List Paragraph":

- Here is a bullet point.
- Here is another one.
- To be continued.

1 The main reason font Montserrat was chosen is because of its circular "**o**", as a reference to the sun.

Thus, it is very important not to alter the font by stretching it in any way, which would also have an impact on the font's readability and may not be recognised as PHAETHON's brand font.

Here is some stretched text. PHAETHON

Here is more stretched text. PHAETHON

2 Please keep to the styles provided, as any differentiation may result in confusion and brand inconsistency.

E.g. When **emphasis** is needed within the text, it should be in **SemiBold** and **black**, not in any other colour, as accent colours are used for headings usually.

Example of a heading in colour

When emphasis is needed within the text, it should be in **SemiBold** and **black.** When colour is used within the text, the reader will no longer perceive a pattern; that a colour is used only for headings, it may confuse the reader and will make the document look busier and less professional.

3 **Important note on justified text**

Justified text is **not** recommended, as it creates unnatural spaces between words, that have a negative impact in the flow of reading, whereas unjustified lines aid the eye in order not to loose track of one's reading.

However, justified text may be used when **multiple columns** are required and the line width is less than half the width of an A4 page (less than 10 words per line).

Traditional line length research, limited to print-based text, gave a variety of results, but generally for printed text it is widely accepted that line lengths fall between 45 and 75 characters per line (cpl), though the ideal is 66 cpl (including letters and spaces).[1] For conventional books line lengths tend to be 30 times the size of the type, but between 20 and 40 times is considered acceptable (i.e., 30 × 10pt font = 300 pt line).[1] Early studies considered line lengths of 59–97 mm (about 57 cpl) optimum for 10-point font.[2] For printed works with multiple columns, 40–50 cpl is often better.

✓ For justified, English-language text the minimum number of characters per line is 40; anything less than 38–40 characters often results in splotches of white spaces (or rivers) or too many hyphenations in the block of text. Longer lines (85–90 cpl) may be acceptable for discontinuous text such as in bibliographies or footnotes, but for continuous text lines with more than 80 characters may be too long. Short text, such as ragged marginal notes, may be as little as 12–15 characters per line.

4 Line length is also important for readability. Ideally an approximate of 10–12 words per line aids readability.

Here is some running text. Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance.

Logo Guidelines

Logo Colour Variations Examples

Logo Colour Variations to Avoid

Please make sure to use the approved colour combinations of the logo that are provided. Any alterations on the colours could weaken the brand identity and compromise the logo's legibility.

* These examples refer to all Phaethon logos; both Centre of Excellence logo and Teaming for Excellence logo, and any future Phaethon sub unit logos.

Logo Resizing

Always resize proportionally, otherwise the logo will be altered and may not be as legible and/or recognizable. Please make sure that it is still legible when resizing in smaller sizes.

Minimum sizes

Minimum logo size for print:

4cm (width) x **1.23cm** (height)

4cm (width) x **1.19cm** (height)

Logo resizing to avoid

Clear Space Around the Logo

The logo, especially the long version, needs space around it to "breathe". The **minimum** amount of clear space required around the logo is equal to the height of the PHAETHON letters. This clear space is a minimum and should be increased where possible.

Logo spacing to avoid

Logo Spacing

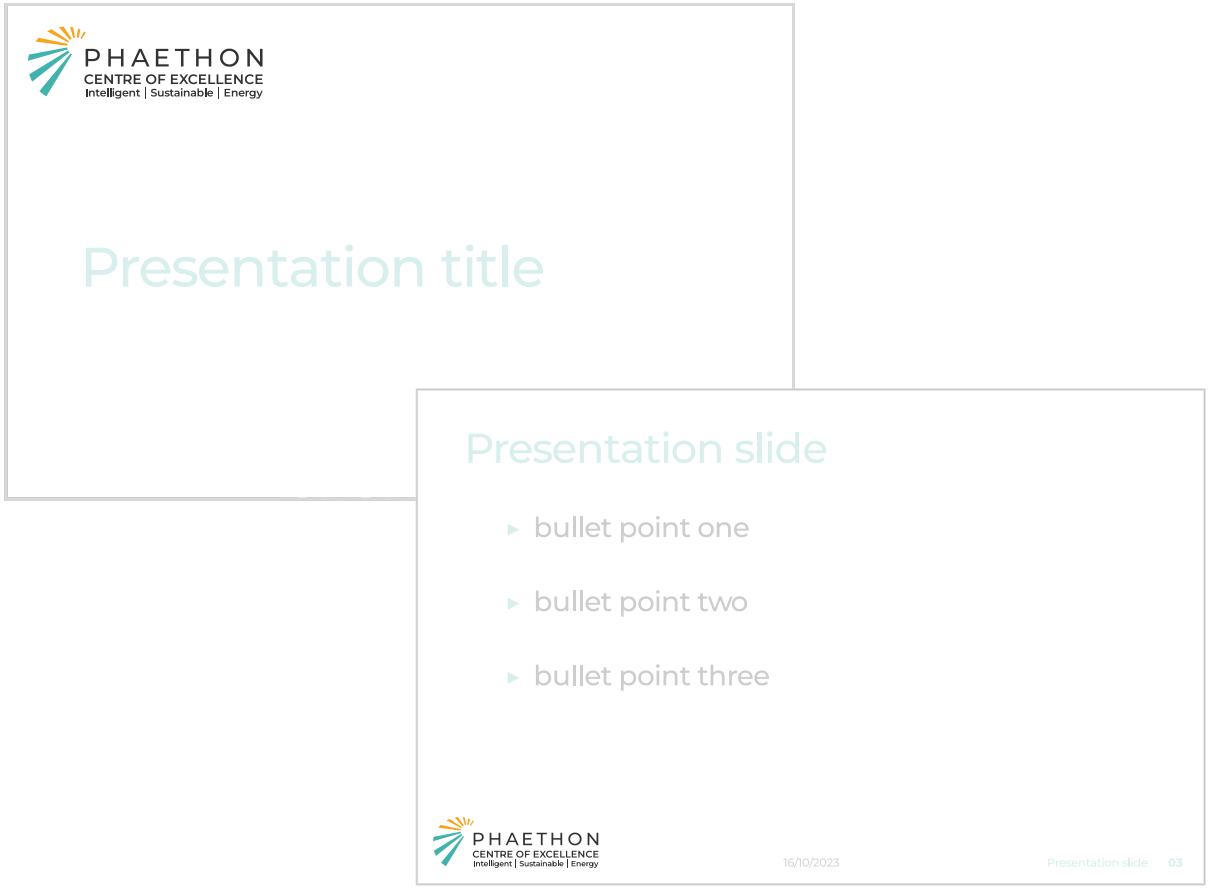
When the logo is used next to other logos, a minimum space equal to the height of all the wording (wordmark) is recommended.

Logo spacing to avoid

Teaming Project logo with partners

Logo Positioning

It is recommended to position the logo at the top left corner of a document or slide. As a second option, the logo can be at the bottom left corner of a document or slide.



This is a recommendation only, there are exceptions as well. For example, on the LinkedIn page the logo could not have been positioned on the left side, because of space limitations.