



Project acronym: HEATSTACK
Project full title: Production Ready Heat Exchangers and Fuel Cell Stacks for Fuel Cell mCHP
Grant agreement no: 700564

D8.3 - HEATSTACK Website

Version: 1.0

Authors:

James Hughes (PNO)

James Craven (PNO)

Content Reviewer

Charlie Penny (SFC)

Quality Reviewer

Charlie Penny (SFC)

Dissemination Level		
PU	Public	<input checked="" type="checkbox"/>
PP	Restricted to other programme participants (including the Commission Services)	<input type="checkbox"/>
CO	Confidential, only for members of the consortium (including the Commission Services)	<input type="checkbox"/>



Version History

Version	Date	Author	Organisation	Description
V0.1	15/07/2016	J. Hughes & J. Craven	PNO	First draft
V0.2	22/07/2016	J. Hughes & J. Craven	PNO	Second draft incorporating review of first draft.
V0.3	25/07/2016	C. Penny	SFC	Final version after content & quality review.
V1.0	08/07/2020	J. Hughes	PNO	Addition of 3 statements, FCH logo and EC flag on this page.

Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

Copyright:

This Document has been created within the H2020 project HEATSTACK. The utilisation and release of this document is subject to the conditions of the contract with the Fuel Cells and Hydrogen 2 Joint Undertaking.

Disclaimer:

Any opinions expressed in this report are solely those of the authors and neither of the Fuel Cells and Hydrogen 2 Joint Undertaking, nor the European Commission or its representatives.

Acknowledgment:

This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under Grant Agreement No. 700564. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme, and from Hydrogen Europe and Hydrogen Europe Research.





Index

Index	3
Index of figures	3
1 Introduction	4
1.1 Technology Summary	4
2 Website Content, Layout and Structure	5
2.1 Homepage.....	5
2.2 About	7
2.3 Partners	8
2.4 Links	9
2.5 Public Materials	9
2.6 News and Events.....	9
2.7 Contact.....	9
2.8 Other Features.....	10
2.8.1 Private Consortium Area	10
2.8.2 Search	10
3 Annex	11

Index of figures

Figure 1: HEATSTACK Logo	4
Figure 2: HEATSTACK Website – Homepage (top)	5
Figure 3: HEATSTACK Website – Homepage (centre)	Error! Bookmark not defined.
Figure 4: HEATSTACK Website – Homepage (bottom).....	7
Figure 5: HEATSTACK Website – About (top)	7
Figure 6: HEATSTACK Website – About (centre)	8
Figure 7: HEATSTACK Website – Partners – Senior Flexonics (UK)	8
Figure 8: HEATSTACK Website – Contact	9
Figure 9: HEATSTACK Website – Private Consortium Area	10
Figure 10: HEATSTACK Website - Search.....	10
Figure 11: HEATSTACK Logo – design A.....	11
Figure 12: HEATSTACK Logo – design B.....	11
Figure 13: HEATSTACK Logo – design C.....	11
Figure 14: HEATSTACK Logo – design D.....	12
Figure 15: HEATSTACK Logo – design E	12
Figure 16: HEATSTACK Logo – design F	13
Figure 17: HEATSTACK Logo – design G	13
Figure 18: HEATSTACK Logo – design H.....	13



1 Introduction

The HEATSTACK project website is the online “face” of the project. The purpose of this website (and the other dissemination materials) is to publicise the project and its objectives widely across Europe and to ensure that the different target stakeholder groups can access information about the project.

The domain <http://www.heatstack.eu/> was acquired by PNO for the project website in April 2016 – month 1 (M1) of HEATSTACK.

The concept of the website was initially discussed by the partners at the project kick-off meeting, in Remscheid, in April 2016. PNO then commenced construction of the website based on the structure and contents agreed upon at that meeting.

The website remained “offline” initially, to allow for comment and input from all partners via emails and Skype or phone calls with the partners to ensure there was a consensus on the look and feel of the website. The project logo, which is a key component of all dissemination material including the website, was open to submission of designs from all partners. A shortlist of options was then put out to a vote. The most popular version was chosen and this is illustrated in Figure 1, whilst other designs can be seen in the Annex (Figures 11 – 18). As detailed in D8.1, the letters of the logo are layered in stacks to convey the name of the project. It also has green leaves on the top of the first ‘A’ to highlight the sustainability benefits of the project.

Figure 1: HEATSTACK Logo



The website went “live” on 16th May 2016 (M2).

1.1 Technology Summary

The HEATSTACK project website is based on the CMS Wordpress. Search Engine Optimizations are performed automatically by a plugin called Wordpress SEO which avoids the need for constant activity to ensure a high SEO ranking.

The website is hosted on servers in Rome, with cloud backup.

Google analytics are running on the website to provide visitor numbers data and other relevant statistical information.



2 Website Content, Layout and Structure

This section details how the HEATSTACK website is structured, the layout of the webpages, and the content that appears on those pages or that will be added to them during the course of the project.

The website structure comprises a central homepage and 6 further pages: About, Partners, Links, Public Materials, News and Events, Contact.

The chosen structure means the website has the desired level of functionality by allowing visitors to easily navigate it to access any information they require about HEATSTACK.

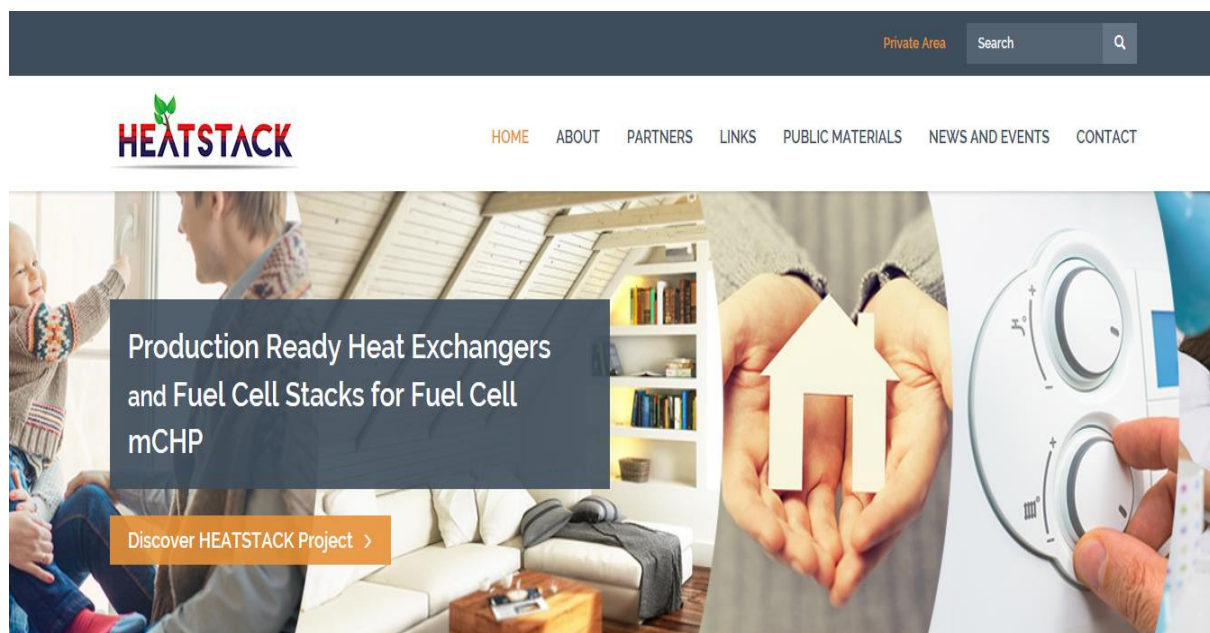
2.1 Homepage

The central homepage has links to the 6 supporting pages so that they can be accessed easily, as well as providing access to a private project management portal and a search function. All of these features are in the top left area of the homepage. The project logo is in the top right area so that it has a prominent position on the homepage.

Beneath this is a banner of images showing people in well-lit and heated homes to show what the technology being developed by HEATSTACK will be used for (residential mCHP) and emphasise the sustainability message. Within that banner, is transparent image that has the full title of the project (Production Ready Heat Exchangers and Fuel Cell Stacks for Fuel Cell mCHP) and a smaller image encouraging users to “Discover HEATSTACK project” – this is linked to the ‘About’ webpage.

The top part of the homepage is illustrated in Figure 2.

Figure 2: HEATSTACK Website – Homepage (top)



In the central section of the website is a short profile of the project, with an image displaying the uses of mCHP around a house and also a key benefit – lower energy bills. Underneath this is an embedded



news and events feed that runs horizontally, and which will introduce updates that are added to the 'News and Events' page of the website. This will keep the content fresh and also improve the website's Search Engine Optimisation (SEO). This is supplemented by having the HEATSTACK Twitter feed embedded on this page to the right of the news feed. HEATSTACK's Twitter is managed by PNO and is updated weekly.

The central section of the homepage is illustrated in Figure 3.

Figure 3: HEATSTACK Website – Homepage (centre)

HEATSTACK Project

Fuel cells have shown great promise for residential micro-Combined Heat and Power (mCHP) generation due to their high electrical efficiency and ability to run on conventional heating fuels. Technology leaders in this sector are nearing commercial deployment following extensive field trials but high capital costs remain a key challenge to the advancement of this sector and mass market introduction in Europe. The 36 month HEATSTACK project, funded through the FCH Joint Undertaking and Horizon 2020, focuses on reducing the cost of the two most expensive components within the fuel cell system; the fuel cell stack and heat exchanger, which together represent the majority of total system CAPEX.



LATEST NEWS AND EVENTS

Jun 20 2016

Comment from Charlie Penny, from Senior UK, Project Coordinator

The H2020 funding provided by the EU has allowed a consortium to be formed that [...]

[Read more](#)

Apr 12 2016

HEATSTACK – Production Ready Heat Exchangers and Fuel Cell Stacks for Fuel Cell mCHP.

HEATSTACK is a European Commission funded project under Horizon 2020 and the Fuel Cells and [...]

[Read more](#)

Tweets by @HEATSTACK_EU

HEATSTACK Retweeted

Hydrogen Europe @H2Europe

Fri 29 July is the deadline for the f-cell award for innovative #fuelcell technology f-cell.de/english/the-aw... #cleantech #greenjobs #energy

HEATSTACK Retweeted

Fuel Cells @Fuel_Cells

The latest The Fuel Cell Daily!

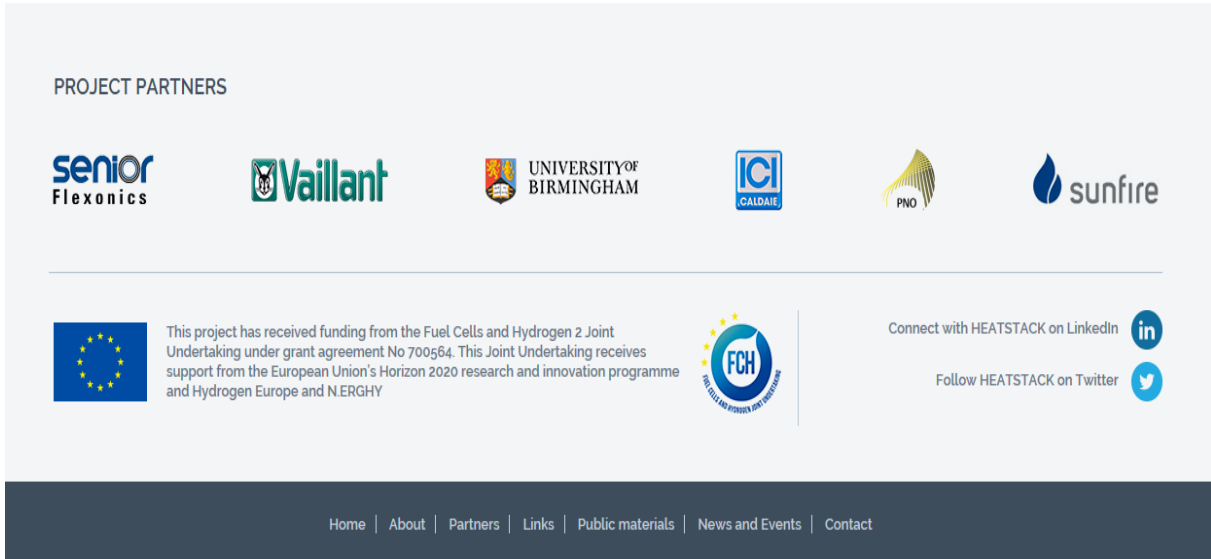
Finally, the bottom section of the homepage is dedicated to promoting the organisations that are making the project happen and HEATSTACK's other online channels. The logos of the project partners are displayed as banner with each logo clickable to the website of the organisation. Underneath this to the left is a reference to the EC funding source of the project – the Fuel Cells and Hydrogen 2 Joint Undertaking (FCH-JU), with the EC flag and FCH JU logo.

Underneath the partner logos (to the right), HEATSTACK's LinkedIn and Twitter are promoted with clickable buttons for visitors to go directly to those channels. The LinkedIn account is also managed by PNO and is updated monthly. At the very bottom of the page are another set of links to the other pages to avoid visitors having to scroll back to the top section.

Figure 4 shows the bottom part of the homepage, which is retained at the bottom of all other pages.



Figure 4: HEATSTACK Website – Homepage (bottom)



2.2 About

This page retains the logo, links to all other pages (including the homepage) and the banner of sustainable energy images. It contains a more detailed description of the project than the homepage and the project objectives. There is also an embedded news and events feed that runs vertically on the right side. This page is illustrated by Figures 5 and 6.

Figure 5: HEATSTACK Website – About (top)

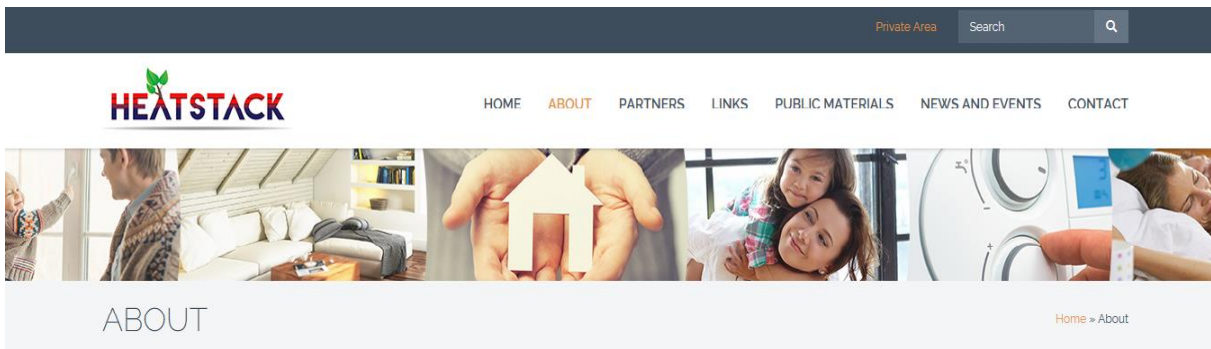




Figure 6: HEATSTACK Website – About (centre)

system; the fuel cell stack and heat exchanger, which together represent the majority of total system CAPEX. Cost reductions of up to 60% for each component technology will be achieved by:

- Advancing proven component technologies through the optimisation of design, materials and production processes for improved performance and quality;
- Developing and applying novel tooling for laser welding and automated production lines to remove manual processing steps;
- Improving cycle times and reducing time to market;
- Demonstrating design flexibility and production scalability for mass manufacturing (10,000 units per annum);
- Developing core supply chain relationships to allow for competitive sourcing strategies.

The HEATSTACK project represents a key step towards achieving commercial cost targets for fuel cell mCHP appliances, bringing together leading technology providers in the fuel cell mCHP supply chain with extensive industrial expertise to accelerate the development towards volume production of the fuel cell stacks and heat exchangers. Cost reductions will be achieved through advanced design, development and industrialisation of core manufacturing processes. Improvements to component performance with advanced materials will reduce system degradation and improve overall system efficiency and lifetime.

Objectives

The HEATSTACK project will deliver a production-ready CAPH design and process, and a production line for the SOC stack glass seals including glass-paste and electrical insulating layers. This will represent a crucial step towards achieving cost reductions of more than 50% for these two key SOFC mCHP system components. Through this, HEATSTACK will have a huge impact on the overall fuel cell system costs. Further cost improvements of main components (e.g. Insulation, Reformer, Fan) as well as a volume effect generated from this project and other FCH JU initiatives under the Horizon 2020 programme, are the main drivers for achieving commercial cost targets. Through the establishment of the mass market in Europe (100,000 unit sales for per annum), a reduction of 80% is targeted.

Apr 12 2016

HEATSTACK – Production Ready Heat Exchangers and Fuel Cell Stacks for Fuel Cell mCHP.

The format of having the project logo, links to other pages and the sustainability images at the top of this page, with the news feed vertically on the right hand side, is replicated for the top of the ‘Partners’, ‘Links’ and ‘Public Materials’ pages, as well as the ‘Contact’ page.

2.3 Partners

This page summaries the partners of the consortium responsible for HEATSTACK. Each partner is then listed in larger text, with a link to their website, next to their logo. Underneath each of these are the descriptions of the partners, for example Senior Flexonics in Figure 7.

Figure 7: HEATSTACK Website – Partners – Senior Flexonics (UK)



Senior Flexonics (Crumlin)

www.seniorflexonics.co.uk

Senior Flexonics is part of Senior plc. Senior is an international, market-leading, engineering solutions provider with 33 operations in 14 countries. Senior designs, manufactures and markets high technology components and systems for the principal original equipment producers in the worldwide energy markets, aerospace, land vehicles and defence. The Senior Flexonics UK site based in Crumlin provide expertise in the design, development and manufacturing of heat exchange solutions for the energy generation market and for the diesel engine market. Senior Flexonics offers unparalleled product design, development, testing and manufacturing capabilities and is the Primary European Design and Development centre for heat exchange products.



2.4 Links

This page is for information about organisations (external to the consortium) and other EU funded initiatives that HEATSTACK makes connections with during the course of the project.

As an FCH JU funded initiative, this page was started with their profile: logo, website link and description.

2.5 Public Materials

The content of this page will include the dissemination materials produced during HEATSTACK, as well as the public deliverables completed by the partners.

The first items to be included in this section will be the project's first press release and the first version of the brochure.

2.6 News and Events

This section will contain news updates about project progress and details of events that the partners are attending and at which HEATSTACK will be promoted. This section will display 10 news articles per page with in reverse-chronological order, i.e. starting with the most recent and going back.

The HEATSTACK Twitter feed is also embedded on this page in order to supply updates between each news article that is posted. As with the homepage, it is displayed vertically on the right-hand side of this page.

2.7 Contact

This page enables visitors to contact the project partners using an easy-to-complete form (Figure 8), which is linked to a dedicated project email address (info@heatstack.eu) that is monitored by PNO.

Figure 8: HEATSTACK Website – Contact

Contact us if you would like more information about the project.

The contact form is a light grey rectangular box. It contains four input fields stacked vertically, each with a label above it: 'Name*', 'Email*', 'Subject*', and 'Message*'. The 'Message*' field is a larger text area. At the bottom right of the form is an orange 'Send' button.

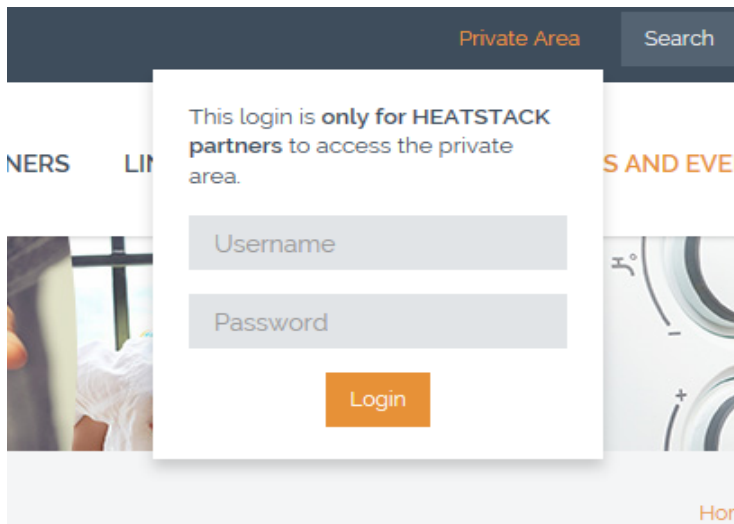
The 'LATEST NEWS AND EVENTS' section is located on the right side of the page. It has a title 'LATEST NEWS AND EVENTS' in blue. Below the title are two news items. The first item has an orange date tag 'Jun 20 2016' and the text 'Comment from Charlie Penny, from Senior UK, Project Coordinator'. The second item has an orange date tag 'Apr 12 2016' and the text 'HEATSTACK – Production Ready Heat Exchangers and Fuel Cell Stacks for Fuel Cell mCHP'.

2.8 Other Features

2.8.1 Private Consortium Area

The private consortium area is used for document storage, diary coordination and other project activities. PNO's specialist innovation management portal – Innovation Place – is the tool chosen by the consortium to perform these functions. Clicking on the link at the top of the HEATSTACK website brings up the authentication portal requiring a registered users email address and password to access the encrypted site hosted by PNO. This is illustrated by Figure 9.

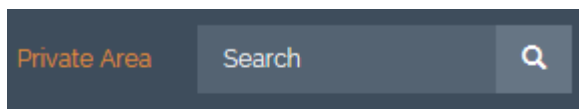
Figure 9: HEATSTACK Website – Private Consortium Area



2.8.2 Search

Located in the top right hand corner of the website next to the private consortium area link (Figure 10), this allows users to search for specific items contained in the website pages without having to view the pages and look for the term manually. Once users have inserted a search term and pressed enter, the results will appear on a separate page.

Figure 10: HEATSTACK Website - Search



ALS NEWS AND EVENTS CONTACT



3 Annex

The logos contained here are examples of designs created but ultimately rejected by the consortium.

Figure 11: HEATSTACK Logo – design A



Figure 12: HEATSTACK Logo – design B



Figure 13: HEATSTACK Logo – design C





Figure 14: HEATSTACK Logo – design D



Figure 15: HEATSTACK Logo – design E





Figure 16: HEATSTACK Logo – design F



Figure 17: HEATSTACK Logo – design G



Figure 18: HEATSTACK Logo – design H

