

## ECSEL Research and Innovation actions (RIA)



# AMASS

## Architecture-driven, Multi-concern and Seamless Assurance and Certification of Cyber-Physical Systems

### AMASS open source platform provisioning and website (a) D7.5

<b>Work Package:</b>	WP7 Industrial Impact and Community Building
<b>Dissemination level:</b>	PU = Public
<b>Status:</b>	Final
<b>Date:</b>	31 July 2017
<b>Responsible partner:</b>	Gaël Blondelle [Eclipse Foundation Europe GmbH]
<b>Contact information:</b>	<a href="mailto:gael.blondelle@eclipse-foundation.org">gael.blondelle@eclipse-foundation.org</a>
<b>Document reference:</b>	AMASS_D7.5_WP7_ECL_V1.0

#### PROPRIETARY RIGHTS STATEMENT

This document contains information, which is proprietary to the AMASS Consortium. Neither this document nor the information contained herein shall be used, duplicated or communicated by any means to any third party, in whole or in parts, except with prior written consent of the AMASS consortium.

---

## Contributors

Names	Organisation
Gaël Blondelle	Eclipse Foundation Europe GmbH
Antoine Thomas	Eclipse Foundation Europe GmbH

## Reviewers

Names	Organisation
Silvia Mazzini (Peer Reviewer)	Intecs SPA
Alejandra Ruiz (Peer Reviewer)	Tecnia Research & Innovation
Jose Luis de la Vara (TC review)	Universidad Carlos III de Madrid
Barbara Gallina (TC review)	Maelardalen Hoegskola
Cristina Martínez (Quality Manager)	Tecnia Research & Innovation

# TABLE OF CONTENTS

<b>Abstract .....</b>	<b>6</b>
<b>1. Introduction.....</b>	<b>7</b>
<b>2. The AMASS Open Platform.....</b>	<b>8</b>
<b>3. Stakeholders.....</b>	<b>9</b>
<b>4. First version of the OpenCert and AMASS Open Source platform website .....</b>	<b>10</b>
<b>5. Status and future work.....</b>	<b>13</b>
<b>References .....</b>	<b>14</b>
<b>Appendix A: Updating the OpenCert website .....</b>	<b>15</b>
A.1 Clone the current website repository .....	15
A.2 Add your content .....	16
A.2.1 Add a Blog or News entry .....	17
A.2.2 Check your modifications.....	17
A.2.3 Push the changes online .....	19
A.2.4 Check online.....	20

## List of Figures

<b>Figure 1.</b>	AMASS Open Source platform architecture .....	8
<b>Figure 2.</b>	OpenCert website home page <a href="https://www.polarsys.org/opencert/">https://www.polarsys.org/opencert/</a> .....	10
<b>Figure 3.</b>	Getting started <a href="https://www.polarsys.org/opencert/gettingstarted/">https://www.polarsys.org/opencert/gettingstarted/</a> .....	11
<b>Figure 4.</b>	About page <a href="https://www.polarsys.org/opencert/about/">https://www.polarsys.org/opencert/about/</a> .....	12
<b>Figure 5.</b>	OpenCert website directory structure.....	16
<b>Figure 6.</b>	Index.md file content .....	17
<b>Figure 7.</b>	Hugo server window.....	18
<b>Figure 8.</b>	Visualize website update before commit .....	19

## List of Tables

<b>Table 1.</b>	Matrix of assets provided on the website for each visitor profile .....	9
-----------------	---	---

## Abstract

This report is the first iteration of deliverable D7.5 (AMASS open source platform provisioning and website), part of task T7.3 (Building and Coordination of AMASS Open-Source Community), released by the AMASS WP7 (Industrial Impact and Community Building).

Since its inception, the AMASS consortium has considered open source and community building as keystones for the sustainability of AMASS results and more specifically of the AMASS Open Platform. A first version of the OpenCert [4] and AMASS Open Platform website has been released in June 2017.

This document follows deliverable D7.3 (AMASS open source platform project proposal) [1] and deliverable D7.4 (AMASS open source platform marketing and outreach plan) [2] which describe the creation of the AMASS Open Platform constituted by the OpenCert [4], CHESS [5] and EPF [6] projects and present the plan to promote the platform.

This deliverable presents how the website is designed to address the needs of different profiles of visitors, the technology selected to implement the website, as well as the result of the first iteration of the website.

# 1. Introduction

AMASS will create and consolidate a de-facto assurance and certification open tool platform, published in open source in the PolarSys Working Group [8], the Eclipse Working Group dedicated to Open Source tools for Systems Engineering and Embedded Systems.

This document presents the first iteration of deliverable D7.5 (AMASS open source platform provisioning and website), released by the AMASS WP7 (Industrial Impact and Community Building). The first iteration of the website has been published in June 2017. The goal of this deliverable is to explain how project partners address the needs of different profiles of visitors of the website.

Open source makes it easy for users to test open platform before adopting it, but in order to be successful, an open source project must not only provide interesting features, but also good online resources and documentation. Indeed, a good website is the best way to reach its audience, and provide documentation and material to convince the audience to use the project.

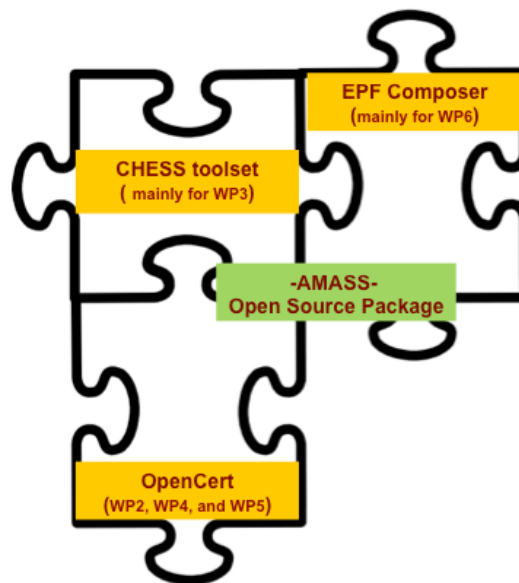
The remaining structure of this deliverable is as follows:

- Chapter 2 reminds the reader about the structure of the AMASS Open Platform.
- Chapter 3 presents a matrix of different online assets that should be interesting for each visitor depending of his profile.
- Chapter 4 presents the implementation of the first iteration of the website, including some snapshots of the most important pages.
- Chapter 5 lists the status of the website as well as the future work planned for the next iteration.
- Appendix A provides a tutorial about how to update the website, or more generally, about how to write a change, and submit it to the project team as a contribution.

## 2. The AMASS Open Platform

As described in D7.3 AMASS open source platform project proposal [1] Section 5, the AMASS Open Platform puts together several Open Source projects that cover the activities of the different work packages (Figure 1):

- **OpenCert [4]** is the core of the AMASS Open Source platform. OpenCert, which was created by the members of the OPENCROSS research project, supports evidence management, assurance case specification and part of the compliance management functionalities from the Basic Building Blocks. It will also include new functionalities implemented during the AMASS project.
- The **CHESS [5]** toolset, which was created by the CHESS research project and continued by SafeCer, adds support for Architecture-Driven Assurance. The CHESS toolset leverages another important PolarSys project, the Papyrus [6] platform for UML (Unified Modelling Language) design and profiles.
- **EPF Composer [7]**, a pre-existing Eclipse project created by IBM some years ago and already used in the context of SafeCer, is a key component for WP6 “Cross-Domain and Intra-Domain Reuse”. The tool is used to describe and support the processes for Cross-domain and Intra-Domain reuse.



**Figure 1.** AMASS Open Source platform architecture

Concerning the provisioning of services for the OpenCert and CHESS packages, the section 4.3 of deliverable D7.3 [1] describes the infrastructure and services provided by the Eclipse Foundation to projects.

Each of the Eclipse and PolarSys [8] project has its own lifecycle according to the Eclipse Development Process and its own website.



### 3. Stakeholders

Before starting the creation of the website, the following matrix was created to identify:

- The different profiles of stakeholders, as a refinement of the profiles listed in section 2 of deliverable D7.4 (AMASS open source platform marketing and outreach plan) [2]. More generally, it lists potential users of the AMASS Open Platform.
- The different assets they would be interested to find in the website.

**Table 1.** Matrix of assets provided on the website for each visitor profile

Profiles/Asset	Download	General information	News / Press releases	Snapshots / Videos	Code	Getting Started	Use cases / Success Story	User documentation	Reference / API documentation
<b>AMASS profiles</b>									
Safety Architect	X	X		X		X	X	X	
Tools architect	X	X	X	X	X	X		X	X
Eclipse Modelling expert	X	X	X	X	X	X	X	X	X
AMASS open platform developer		X			X				X
<b>General profiles</b>									
Researcher	X	X			X	X			X
Developer / Maker	X	X			X	X		X	X
Journalist		X	X	X			X		
Industry / Decision maker		X	X	X			X	X	
Contributor	X	X			X	X		X	X

The AMASS project team takes care of avoiding redundancy of content between the AMASS Open Platform web site and the regular AMASS project website [3]. The goal of task 7.3 (Creation and Coordination of AMASS open source community) is to create a sustainable open source community that attracts attention from contributors and users during the AMASS project and lasts after the end of the research project.

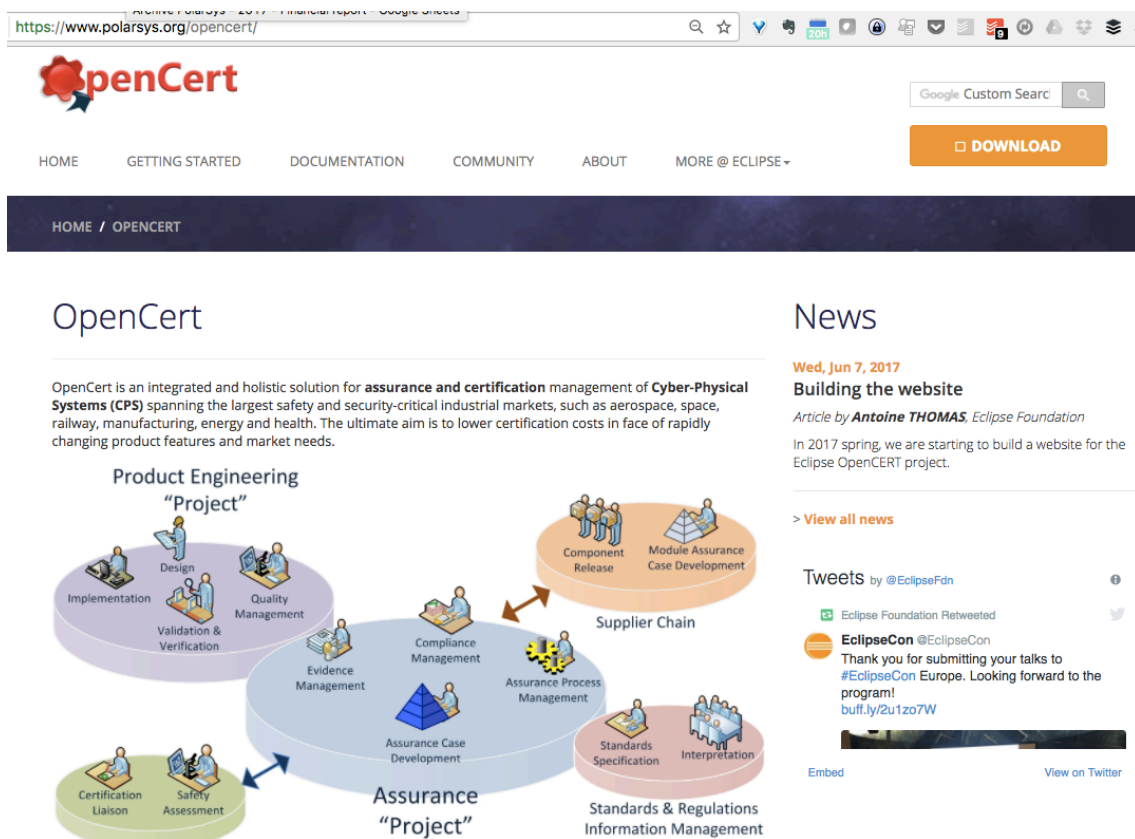
## 4. First version of the OpenCert and AMASS Open Source platform website

The project team decided to use Hugo [9] to create and maintain the OpenCert and AMASS Open Source platform website. Hugo is a command line tool to create static websites based on few configuration files, a theme, and content written in the markdown markup language [12].

Hugo has proven to be efficient in different other contexts at Eclipse including the Eclipse IoT Working group [10] and the App4MC [11] project, whose websites are managed with website generator technology.

One of the main advantages of Hugo is that it is fully consistent with the Eclipse development process, and the Eclipse Foundation provides a default template that looks professional and makes it easier to create a website for a project.

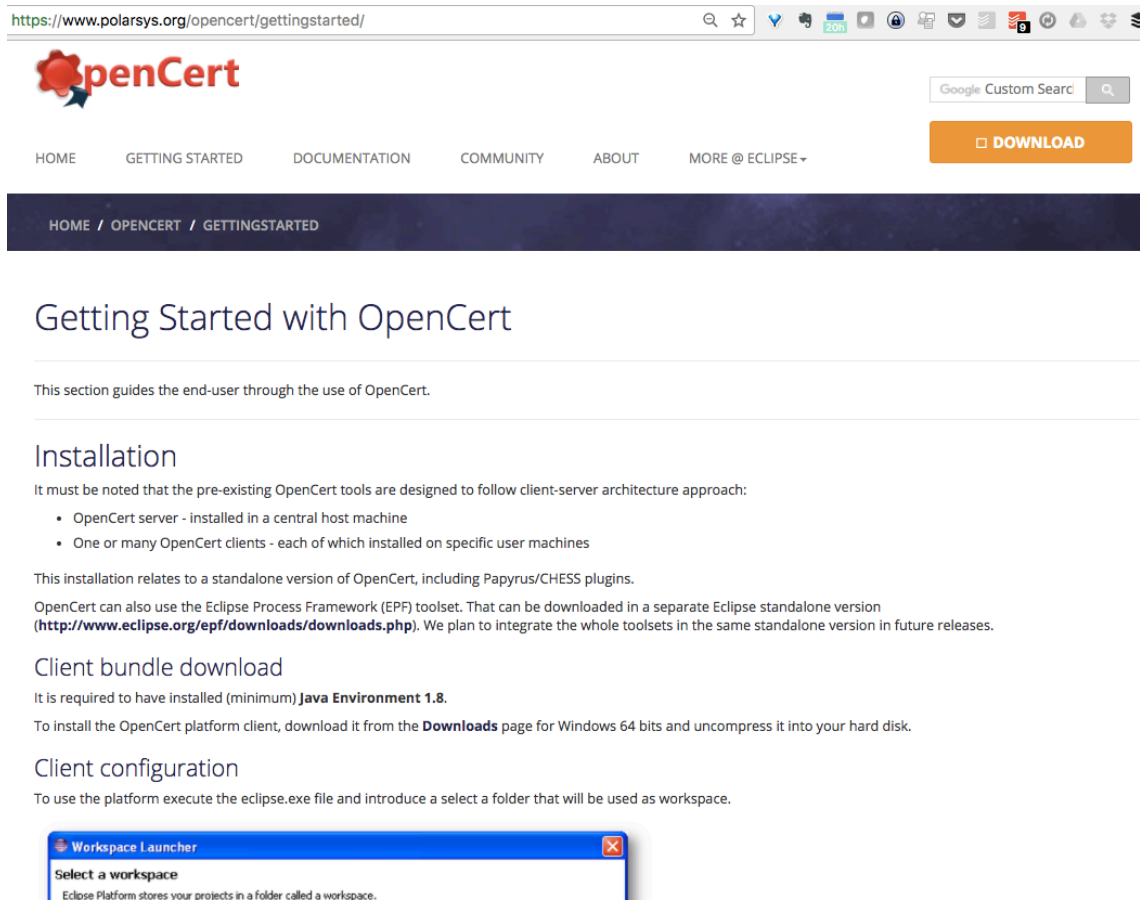
The implementation of deliverable D7.5 is done incrementally. This first iteration of the website focuses on the presentation of the OpenCert project.



**Figure 2.** OpenCert website home page <https://www.polarsys.org/opencert/>

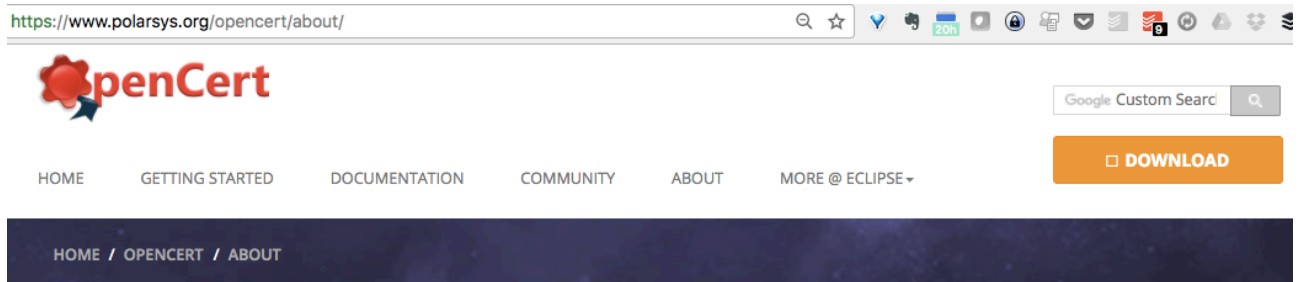
The homepage of the OpenCert website (Figure 2) presents general information about the project as well as a news feed and a twitter feed.

The menu bar already contains links to important resources like the Getting Started, Documentation, Community and Downloads.



**Figure 3.** Getting started <https://www.polarsys.org/opencert/gettingstarted/>

An important role of the website is to provide documentation to potential users. The Getting started document is accessible directly from the main menu and guides new users through their first steps with installing and using OpenCert (Figure 3).



**Figure 4.** About page <https://www.polarsys.org/opencert/about/>

The About page (Figure 4) introduces the articulation of OpenCert, CHES and EPF Composer to put together the AMASS Open Platform. This page also references the AMASS research project and points to its website.

## 5. Status and future work

The current version of the website provides:

- General information about OpenCert
- Downloads of OpenCert
- Support for news and blog posts
- Code
- Getting Started documentation
- User's documentation
- Developer's documentation

In the next iteration of the web site, we will focus on:

- Creating a specific package for the AMASS Open Platform in addition to the OpenCert download.
- Adding rich content like videos.
- Adding more committers to the OpenCert projects to improve the collaboration on the project.
- Adding more documentation for users and developers.
- Publishing use cases or success stories.

## References

- [1] [D7.3 AMASS open source platform project proposal](#)
- [2] [D7.4 AMASS open source platform marketing and outreach plan](#)
- [3] AMASS ECSEL project website <http://amass-ecsel.eu/>
- [4] OpenCert project page <https://www.polarsys.org/projects/polarsys.opencert>
- [5] CHESS project <http://www.chess-project.org/>
- [6] Papyrus project <https://www.eclipse.org/papyrus/>
- [7] Eclipse Process Framework Project (EPF) <https://eclipse.org/epf/>
- [8] PolarSys website <https://www.polarsys.org/>
- [9] Hugo website generator <http://gohugo.io/>
- [10] Eclipse IoT Working Group <https://iot.eclipse.org/>
- [11] App4MC <https://www.eclipse.org/app4mc/>
- [12] Markdown markup language <https://fr.wikipedia.org/wiki/Markdown>

## Appendix A: Updating the OpenCert website

This appendix presents a tutorial that explains how to add or modify the content of the OpenCert and AMASS Open Platform website.

To update the website, you have to create content using the Markdown markup language and to configure Hugo to take the new content into account. Then, you upload the generated website to the Git repository on the PolarSys forge. Finally, the generated website is pushed to the web server thanks to an automatic script.

Before editing any content for the OpenCert website, you must have the following tools installed on your computer:

- A terminal for command line
- Git ([installing git](#))
- Hugo ([installing Hugo](#))
- A text editor, for “.md” files (Markdown content files) and “.toml” files (configuration files)

A few additional resources:

- You edit the content of the website using Markdown. Here is a link to a [Markdown Reference Guide](#)
- Hugo is the website engine that is used to generate static web content. There is a very good introduction in the [Hugo Quickstart guide](#).
- On the Eclipse and PolarSys forge, Gerrit is used to manage code submission and peer review. You can read here [a documentation to the usage of Gerrit](#) in the context of PolarSys. You need to:
  - [Upload a change](#)
  - [Sign off](#) commits
  - Know your [http account / password](#)

### A.1 Clone the current website repository

The website and its sources are hosted in a Git repository on the PolarSys forge. In order to add content, or modify content, you must first clone it on your hard drive to work locally.

```
git clone https://git.polarsys.org/r/polarsys.org/opencert OpenCert-website
```

This is the root of the website where the actual static website content is stored, but you cannot modify anything here. Instead, you will go to the “hugo” folder, and start to use Hugo website engine.

```
cd hugo
```

Let's have a look at the structure:

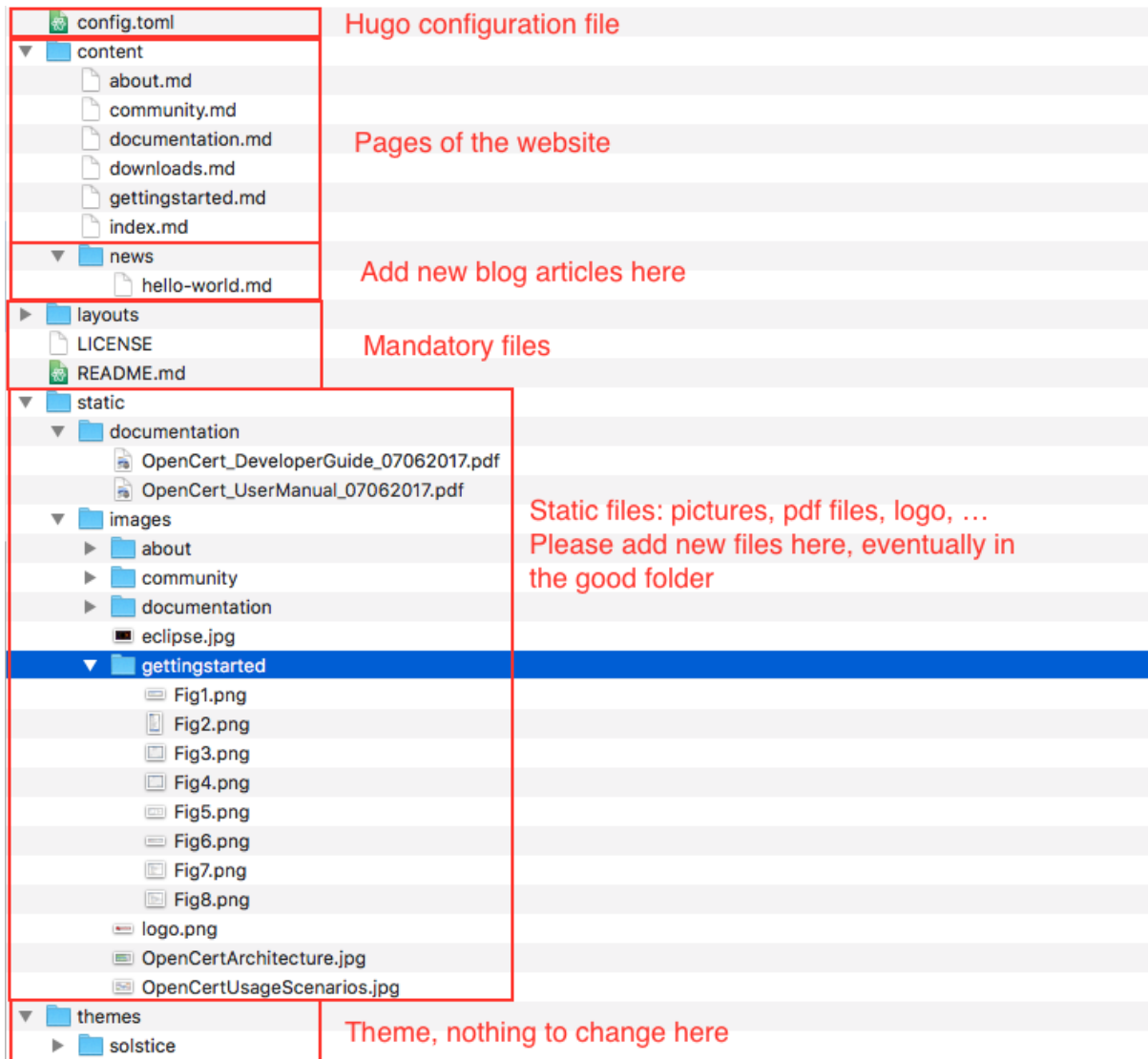


Figure 5. OpenCert website directory structure

## A.2 Add your content

If you want to modify the content of a page, go to the “content” folder. Then open a file; change it using Markdown syntax and HTML.

You can use the file explorer and modern text editor, or use some command line tool.



A quick look at “index.md” file that will be used to generate “index.html” static webpage:

```
index.md
1
2 date: 2017-06-07
3 title: Eclipse OpenCert
4 type: index
5
6
7
8 OpenCert is an integrated and holistic solution for **assurance and certification** management of
9 * **Cyber-Physical Systems (CPS)** spanning the largest safety and security-critical industrial markets, such as
10 * aerospace, space, railway, manufacturing, energy and health. The ultimate aim is to lower certification costs
11 * in face of rapidly changing product features and market needs.
12
13 <p>
14 
15 <br />
16 </p>
```

Figure 6. Index.md file content

The top of the files includes some meta data:

- Date
- Title
- Type

While *Date* and *Title* are available on all pages, “*type: index*” is only for the index page.

Markdown can be used for basic content, but it is also possible to use HTML. In this example, HTML is used to insert a picture.

Do not forget to save the file before launching the generator.

### A.2.1 Add a Blog or News entry

If you do not want to change the content, but just want to add an article to the blog, then go to the “content/news” folder. Just copy the first news, change the file name, edit the metadata (date and title), add some content, and save.

The new article will be added to the news feed in the right column of the home page, and to the RSS feed too during the next generation.

Be careful, do not forget to edit the date metadata: the news feed will be sorted using the metadata, not the file modification date.

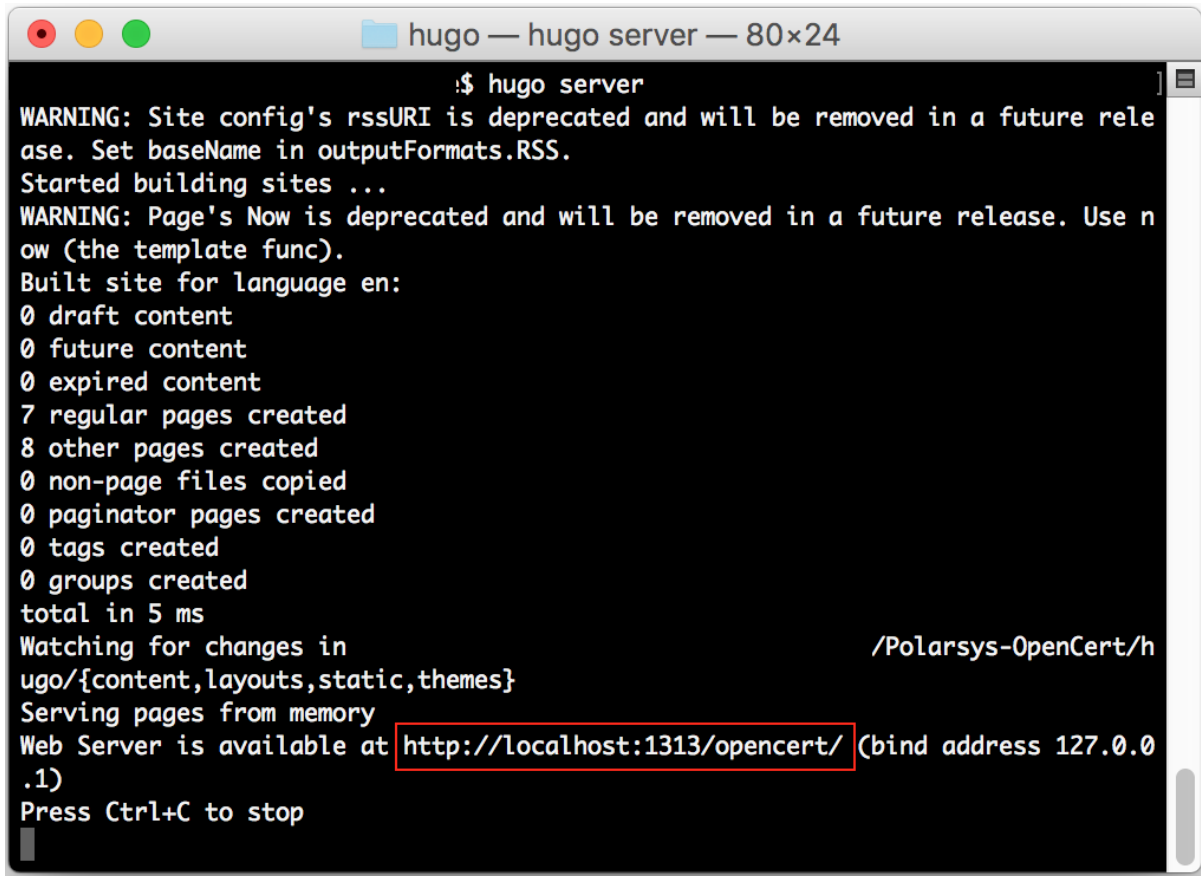
### A.2.2 Check your modifications

Before uploading the files to the web server, you must check your modifications. Hugo provides a very convenient way to do that: it has its own local webserver.

In the terminal, be sure to be in the “hugo” folder. Then, run:

```
hugo server
```

You will get:

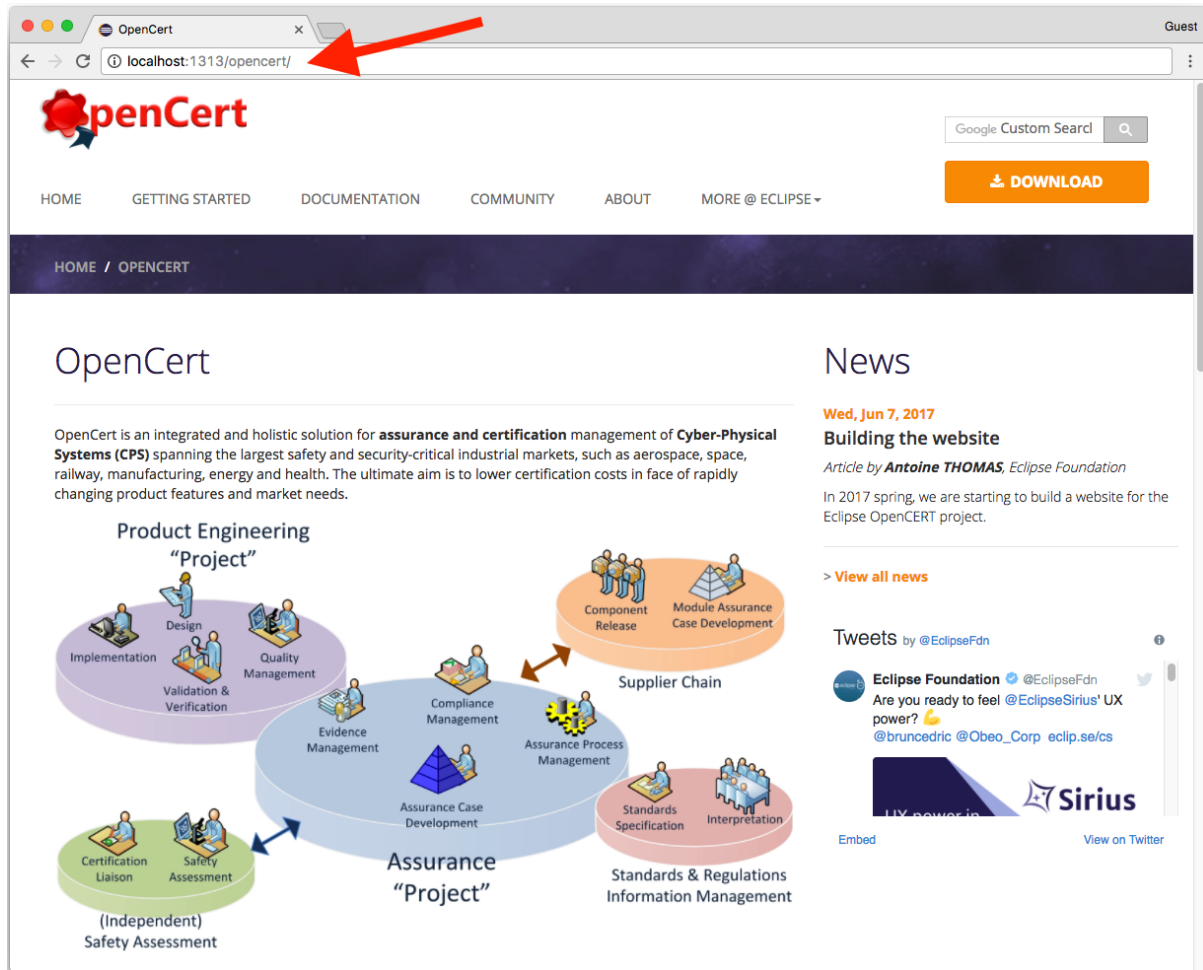


```
hugo — hugo server — 80x24
:$ hugo server
WARNING: Site config's rssURI is deprecated and will be removed in a future release. Set baseName in outputFormats.RSS.
Started building sites ...
WARNING: Page's Now is deprecated and will be removed in a future release. Use now (the template func).
Built site for language en:
0 draft content
0 future content
0 expired content
7 regular pages created
8 other pages created
0 non-page files copied
0 paginator pages created
0 tags created
0 groups created
total in 5 ms
Watching for changes in /Polarsys-OpenCert/hugo/{content,layouts,static,themes}
Serving pages from memory
Web Server is available at http://localhost:1313/opencert/ (bind address 127.0.0.1)
Press Ctrl+C to stop
```

Figure 7. Hugo server window

It will generate a new version of the website, with the latest changes you have done on your computer. Then, it starts a local webserver.

Copy/paste the web address in your web browser.



**Figure 8.** Visualize website update before commit

You can browse the website to check your modification. In some case, you might have to force refresh the content in the browser, with “ctrl+r”.

To stop the web server, go back to the terminal, and press “ctrl+c”.

You are ready to push the content online.

### A.2.3 Push the changes online

Go back to the website root. You must be in “/OpenCert-website/”, not in “/OpenCert-website/hugo”.

First, add the changes and new files (like news or pictures) to git:

```
git add *
```

Then, commit your changes:

```
git commit -m "add a description here" -m "Signed off by: Firstname Name <email@email.com>"
```

Please change “add a description” with a quick description of your change. And change “Firstname Name <email@email.com>” with your personal information. This must be the same than on your Gerrit profile: see <https://git.polarsys.org/r/#/settings/>

If you are not signing off your commit, it will be refused by the git server.

It's time to check your Gerrit credentials and to submit your commit for review:

```
git push origin HEAD:refs/for/master
```

Then, contact OpenCert project's committers and ask them to review your commit. They can see it in their "Incoming reviews" list at <https://git.polarsys.org/r/#/dashboard/self>.

### **A.2.4 Check online**

Once pushed, it takes a few minutes to see the change on the website. You may have to force reload the content of a page using "ctrl+r" in your browser.