The ePIC website development: an update

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Recap: why the website

- There is plenty of prior experience with Mediawiki (Wiki) and most people agree these resources don't age well because of lack of management tools and only rudimentary access and version control.
- There are good content management systems there but they share some of the problems with the Wiki and in some cases (e.g. Drupal) long-term maintenance incurs a real cost in effort required due to the never ending software update cycle, which starts with PHP.
- Migration to a different server is far from trivial.
- We need a portable system which requires a minimal effort to maintain.

Recap: our web technology choice

- We are using the “static website generator” technology.
- This means that a set of inputs (text, images, layouts, data) is converted into a collection of HTML files which form a complete website. Deployment then is effectively a copy of the thus compiled HTML collection to the target web server.
- The result is high performance, security and ease of deployment.
- The Markdown format used for creation and management of the text content on the site is not difficult to learn, from our experience.
- The data content (e.g. working groups and conference info) is kept in YAML files, which are parsed as needed to render the content on the web pages, approximating the DB functionality.

The website code management and features

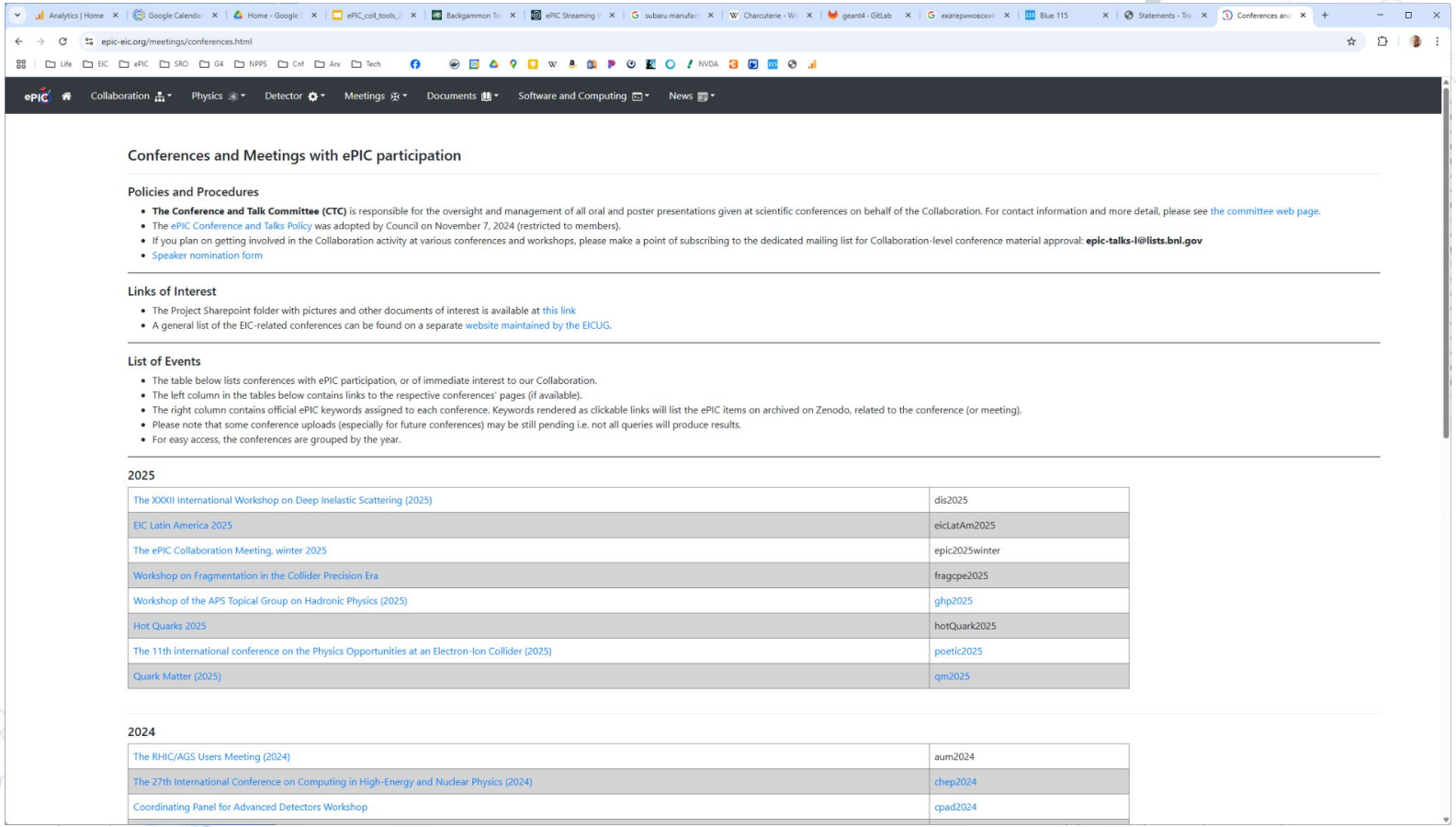
- We leverage a few of the useful features on GitHub, which also provides a good view of who is doing what, for what reason and with what result. Recently added a preview feature for the proposed changes.
- A managed list of keywords is used to achieve tight integration with our Zenodo repository e.g. automated searches. This is done using macros written in the “Liquid” language, which generate links automatically based on DOIs.
- All macros operate in the compilation stage, so again, once the site is rendered, it remains static (i.e. no macros are run when browsing).
- Example: the WG info is stored in YAML, and parsed into a standard group template with a provision to add any custom content as needed.

Redux: the conference section in the keywords file

```yaml
# 2025

- name: eicLatAm2025
  description: EIC Latin America 2025
  category: conference
  upload: no
  year: 2025
  url: 'https://indico.ku.edu/event/478/'

- name: hotQuark2025
  description: Hot Quarks 2025
  category: conference
  upload: no
  year: 2025
  url: 'https://indico.cern.ch/event/1467925/'

- name: dis2025
  description: The XXXII International Workshop on Deep Inelastic Scattering (2025)
  category: conference
  upload: no
  year: 2025
  url: 'https://indico.cern.ch/event/1436959/'

- name: epic2025winter
  description: The ePIC Collaboration Meeting, winter 2025
  category: conference
  upload: no
  year: 2025
  url: 'https://agenda.infn.it/event/43344/'

- name: fragcpe2025
  description: Workshop on Fragmentation in the Collider Precision Era
  category: conference
  upload: no
  year: 2025
  url: 'https://indico.cern.ch/event/1461239/overview'

- name: ghp2025
  description: Workshop of the APS Topical Group on Hadronic Physics (2025)
  category: conference
  upload: yes
  year: 2025
  url: 'https://indico.jlab.org/event/868/'
```

- These data are well organized, easy to read and can be rendered as needed on any page.
- Less work and maintenance than with the Wiki i.e. there are no concerns about the format of the presentation – here only the data need to be modified.
- There are automatic URLs included in tables based on the data, and automatic Zenodo links, with additional control via the “upload” attribute (e.g. to prevent unsuccessful queries in cases when materials are still pending the upload).
- Added an optional “nominations” functionality, currently not commissioned by the CTC decision.
- The updates page has been moved from the “Documents” section to “Meetings”, where is more organically belongs.

The Updated Conferences Page



The Website: content vs layout

- The content and the layout of the site, which defines the look and feel of the site, are not related.
- The former consists of a collection of Markdown, YAML and image files.
- The latter is included in the code as a collection of “templates”. It can be just one template for simple sites. The site can be given a new “skin” w/o changes in the content.
- A template includes a HTML and Javascript components. JS is needed to provide more interactivity to the site, e.g. drop-down menus and other embellishments.
- There is a choice of Javascript libraries, the criteria for selection include stability, security, outlook for support. We chose Bootstrap since it matches well with these requirements.

Structured data

- YAML has already been mentioned as the container for structured data, and CSV can be used as well if needed. These are simple, proven formats.
- It's a good idea to identify components of web pages that can be factored into a structured data part, and the corresponding presentation layer. A natural example of this is tables.
- An additional bonus is that the same data can be rendered on different pages according to the context. We already have a few examples of this, including the master keyword file which is accessed from more than one location. This ensures referential integrity i.e. you only edit and maintain the data in one location instead of tweaking multiple pages at once.

Upgrading the layout

- While the initial version of the website was received as “acceptable” by the Collaboration, there have been comments which call for an upgraded, more modern and dynamic look and feel.
- To this end, I have explored multiple candidate templates/layouts.
- Thus far the focus was on free/open source templates, but there are affordable commercial options as well.
- The challenge lies in the fact that majority of website development is centered around e-commerce, which often results in excess of decorative elements and behaviours, and themes that are not well aligned with the science mission of ePIC.
- In the end, it was possible to identify a few promising candidates.

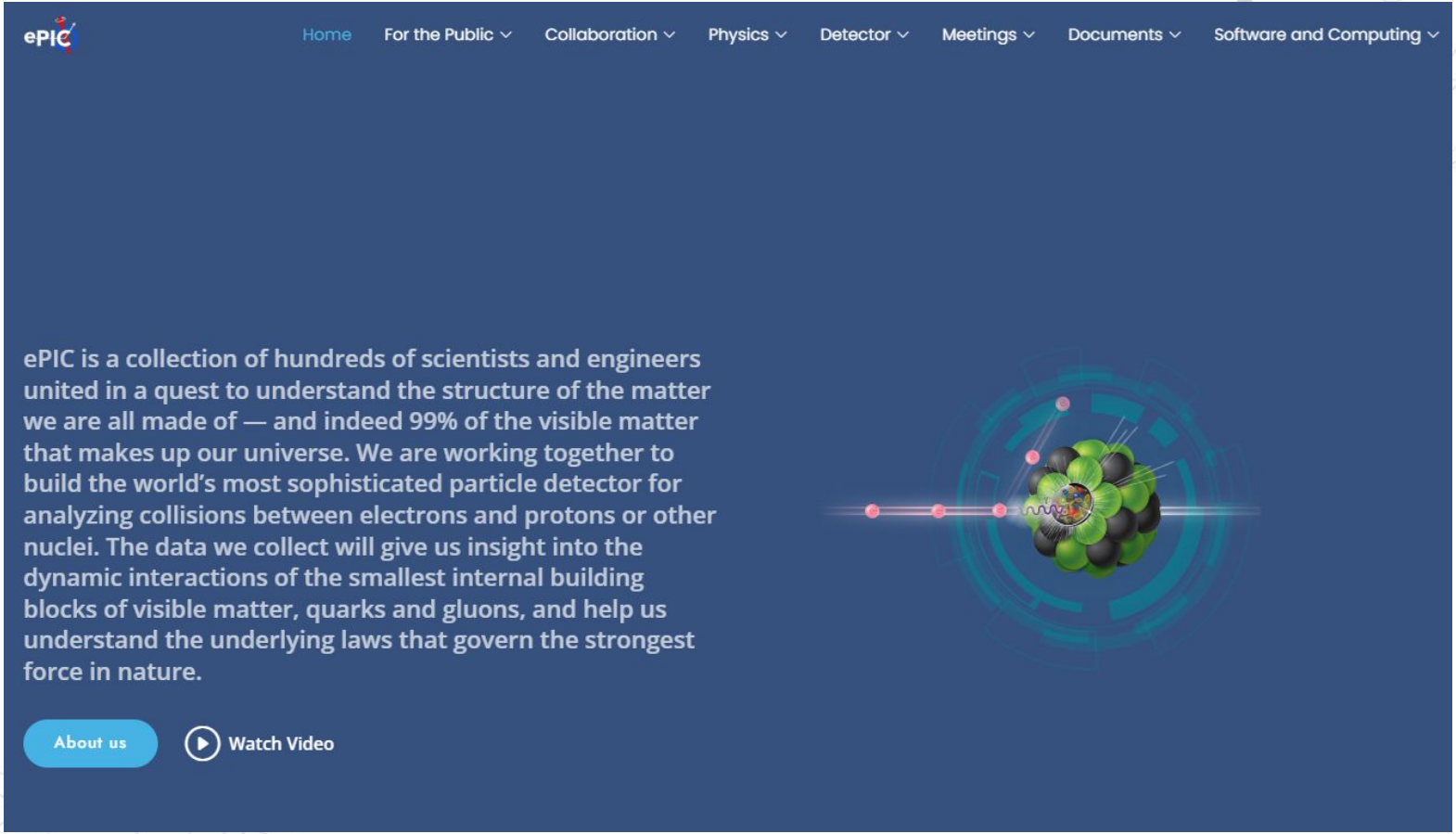
The prototypes

- The prototype demos were created as separate projects on GitHub. They only contain the presentation layer adapted for ePIC needs, but little or no actual ePIC content (which would require a lot of labor).
- Links are on the following page.

The prototypes on GitHub

- https://eic.github.io/website-prototype-arsha/
- https://eic.github.io/website-prototype-butterfly/
- https://eic.github.io/website-prototype-modern/
- https://eic.github.io/website-prototype-quant/
- The following slides contain some screenshots. The links above are functional, feel free to peruse, too – better view than I could fit on these pages.

1) “arsha”


ePIC
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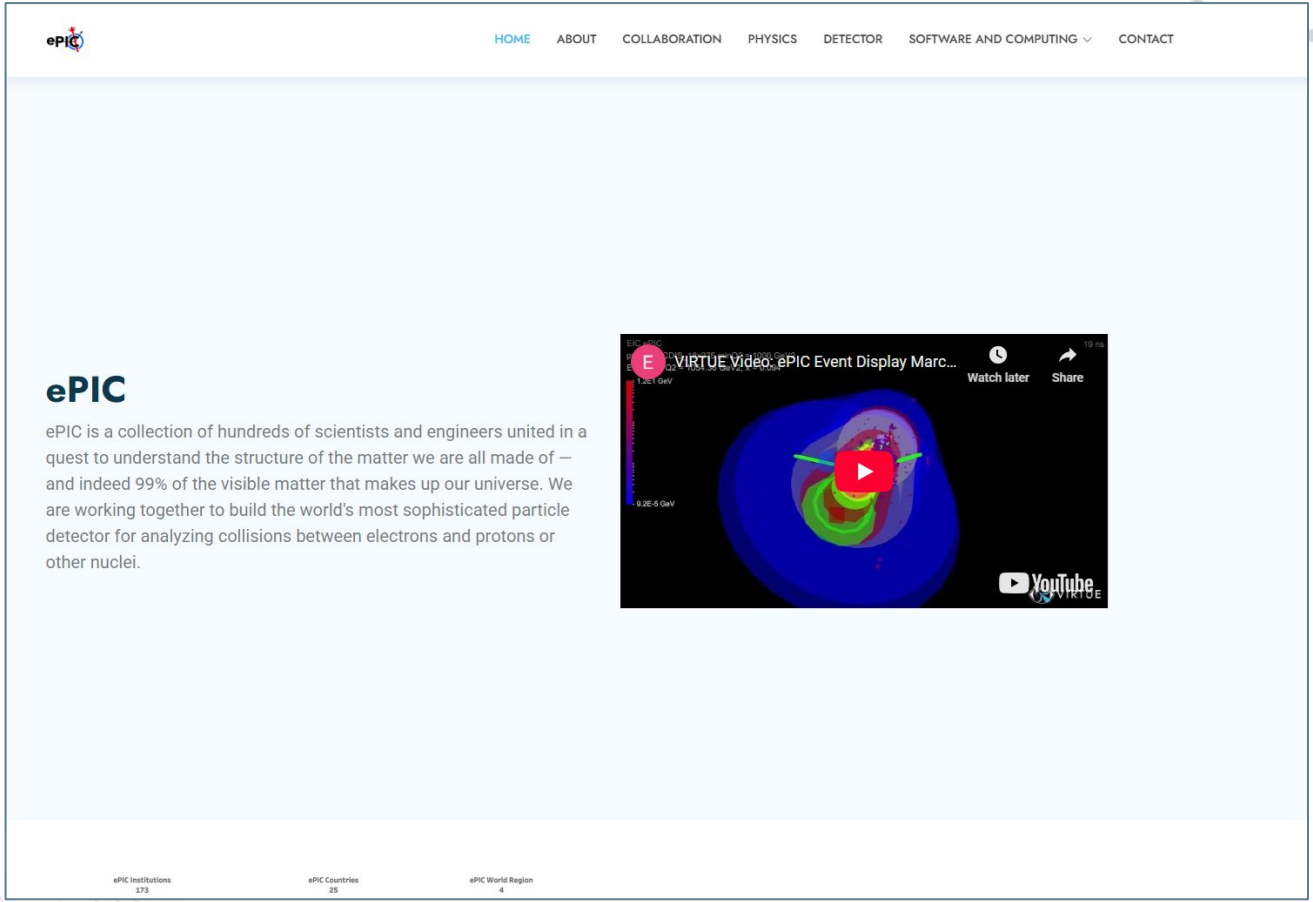
For the Public
Collaboration
Physics
Detector
Meetings
Documents
Software and Computing
ePIC is a collection of hundreds of scientists and engineers united in a quest to understand the structure of the matter we are all made of — and indeed 99% of the visible matter that makes up our universe. We are working together to build the world’s most sophisticated particle detector for analyzing collisions between electrons and protons or other nuclei. The data we collect will give us insight into the dynamic interactions of the smallest internal building blocks of visible matter, quarks and gluons, and help us understand the underlying laws that govern the strongest force in nature.
About us
Watch Video

2) “butterfly”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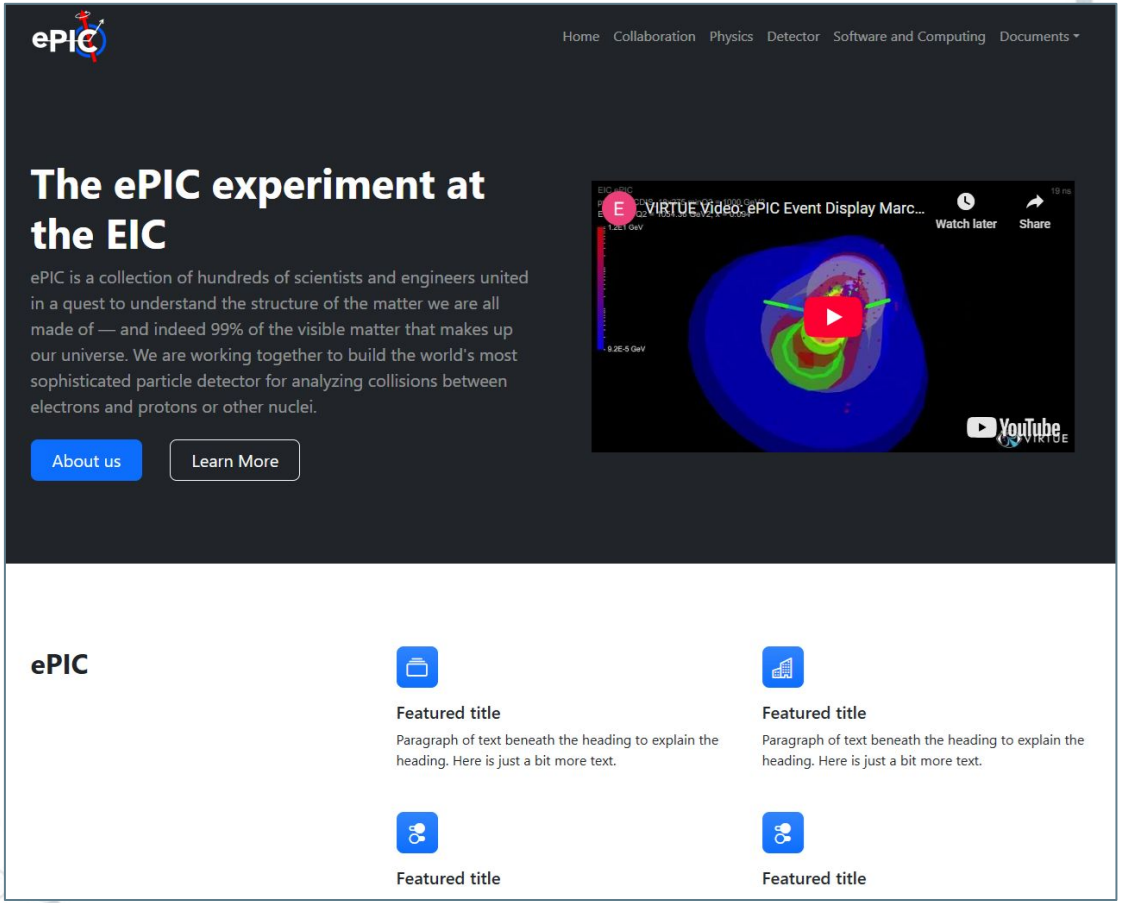
ePIC Institutions
173
ePIC Countries
25
ePIC World Region
4

3) “modern”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The ePIC experiment at the EIC
ePIC is a collection of hundreds of scientists and engineers united in a quest to understand the structure of the matter we are all made of — and indeed 99% of the visible matter that makes up our universe. We are working together to build the world's most sophisticated particle detector for analyzing collisions between electrons and protons or other nuclei.
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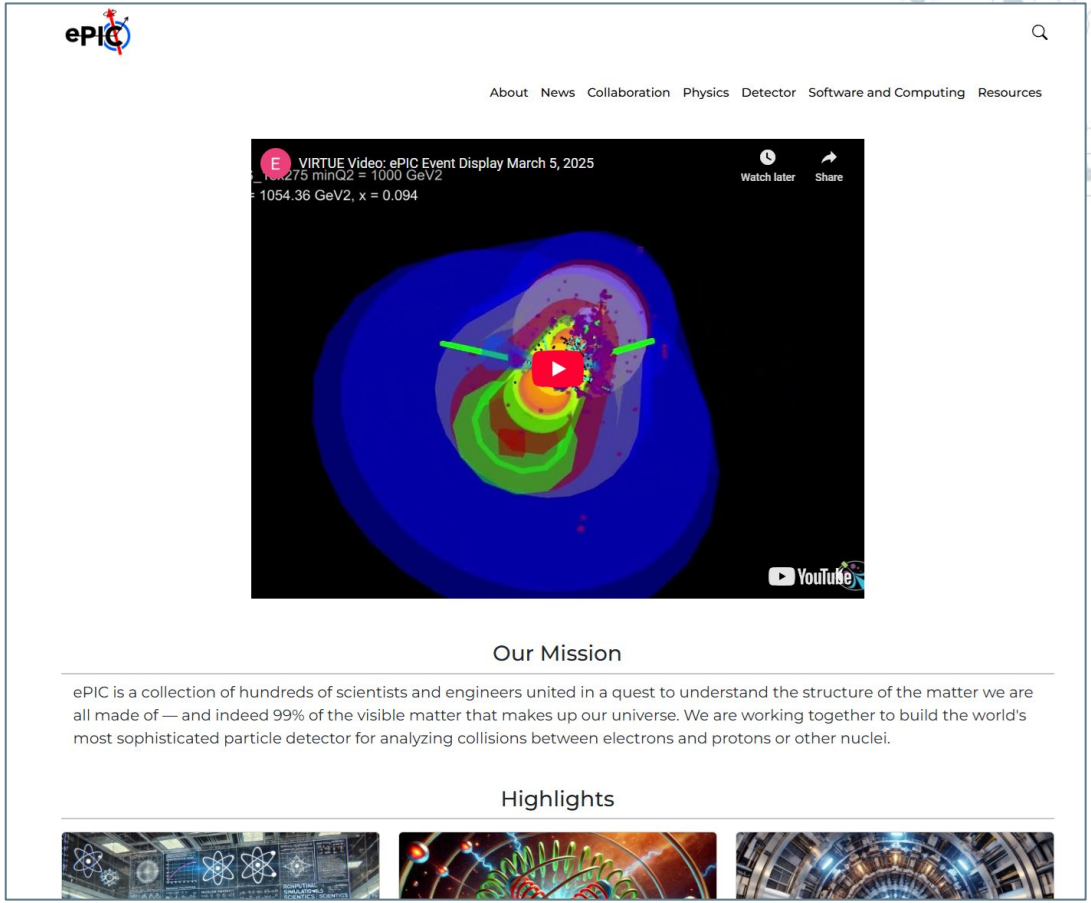
Paragraph of text beneath the heading to explain the heading. Here is just a bit more text.
Featured title
Paragraph of text beneath the heading to explain the heading. Here is just a bit more text.
Featured title
Featured title

4) “quant”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Our Mission
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Highlights

Choices

- Any of the templates used in the demos presented above would require a sizeable development effort to adapt them for ePIC needs, but this is all very doable.
- This work can start as soon as the Collaboration makes its choice.
- If you saw a layout which you think will work better than these four, please let me know. As stated before, we are sticking with Bootstrap and open source for now.
- The first layout, “arsha”, seems to have received best grades in the informal e-mail exchange on this topic.
- How do we pick the optimal version?

Migration from Wiki to the Website

- Migration process from the Wiki to the Website is completely orthogonal to any upgrades in the website layout, due to clean separation of the content and presentation layers.
- We seem to have stalled in this process. These work areas can progress in parallel. There are pages on the Wiki that haven't been updated for a long period of time and are likely obsolete. This dilutes the Wiki and makes it less useful.
- Propose to create a task force (not including myself, since it's content) – with the mandate to work with the conveners/owners of the Wiki pages.
- The GitHub PR process appears to work well and would be used in the migration process.

Hosting

- Thanks to the technology choice, the website is extremely portable and can be deployed on any machine/web server with proper configuration.
- The issues of auth/auth are deferred hence all content is currently public, and this appears to be acceptable at this point to many ePIC members.
- Our current host is “GitHub Pages” and the available functionality is adequate at this point.
- We do have a proper URL: https://www.epic-eic.org