ePIC Collaboration Meeting 2026

Making ePIC Software Discoverable: A Discussion

ePIC User Learning

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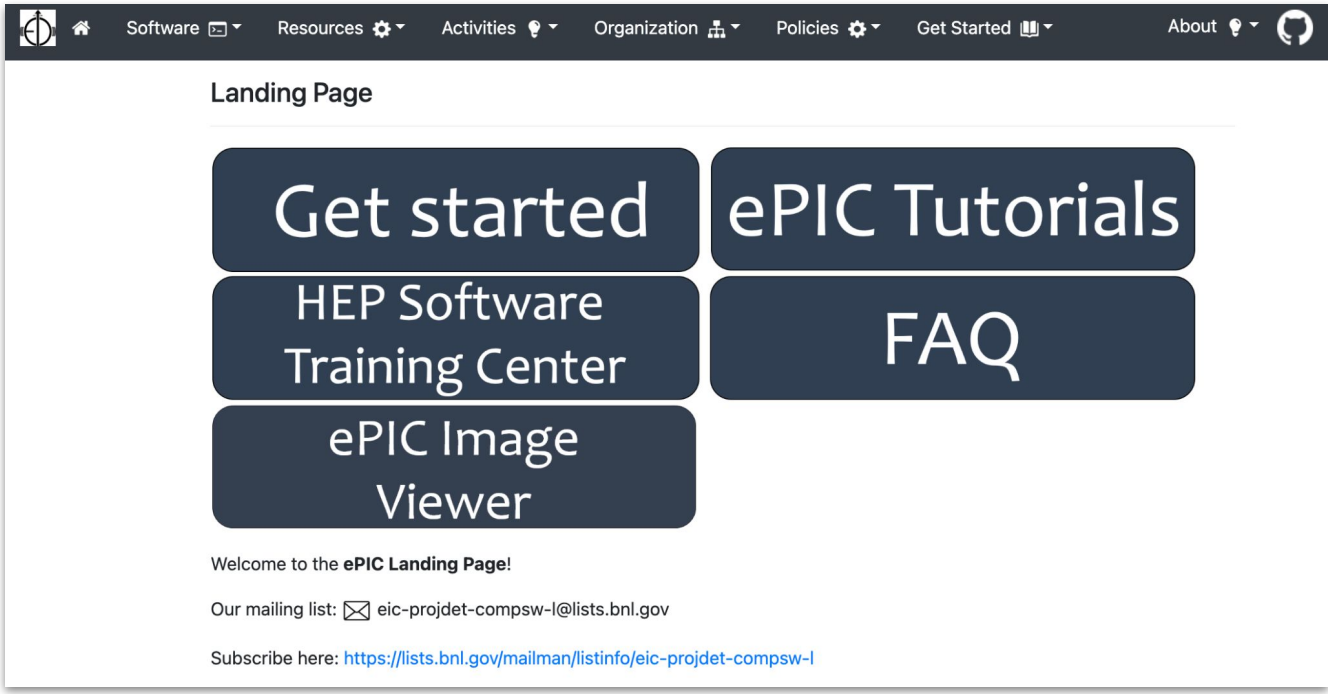
20th January 2026

Efforts We Utilize So Far

- Landing page
- Software Tutorials



Motivation

- New collaborators (students, postdocs, external users) often struggle to find the right tools - how can we better onboard?
- Discoverability increases **reuse**, scientific impact, and sustainability
- Funding agencies increasingly expect software to be FAIR (Findable, Accessible, Interoperable, **Reusable**)
  - Often as part of **required** data management plans for grant submissions

What Do We Mean by Discoverability?

- Ability for users to *find* relevant software
- Ability to *understand* what it does and whether it applies to their problem
- Ability to *access* documentation, code, and support
- Low barrier from discovery → first successful use
- Want users to quickly understand how and where to contribute
  - What needs work?

Current Challenges in ePIC

- Software spread across many repositories and organizations
  - Some software/code not publicly available at all!
- Inconsistent naming, tagging, and metadata
- Documentation quality varies widely
  - Software also developing rapidly at this point
- Knowledge often transferred informally (word of mouth, Mattermost, meetings)
- Coordination of expectations between Production & Validation with what is provided to users from User Learning

Discussion to follow!
Please engage!

Disclaimer: The following are *suggestions* and potential ideas.
Can mix and match aspects we like between them to some extent.

Strategy 1: Centralized Software Index

- Maintain a single, authoritative ePIC software catalog
  - Make this easily searchable
  - Utilize an LLM for this?
- Brief description for each package (purpose, audience, maturity)
- Links to repositories, docs, tutorials, and contacts
- Clear categorization:
  - Simulation
  - Reconstruction
  - Analysis
  - Calibration
  - Utilities
- Could live on the ePIC website or documentation hub

Strategy 2: Standardized Metadata and Tagging

- Consistent README structure across repositories
- Minimal required metadata:
  - What problem does this solve?
  - Who is it for?
  - Dependencies
  - Entry-level example
  - Maintainer/contact
- Use common tags and topics (GitHub/GitLab)
- Versioning and release notes to indicate stability

Strategy 3: Documentation as a Standard Product

- Short “Getting Started” guides prioritized over exhaustive manuals
- One runnable example per package
- Clear installation instructions
- Document expected inputs/outputs and common failure modes
- Encourage documentation contributions alongside code

Strategy 4: Tutorials, Workshops and Recorded Content

- Regular software-focused tutorials (especially for new collaborators)
- Hands-on examples using realistic workflows
- Record and archive tutorials for asynchronous access
- Link tutorials directly from repositories and the central index
- Shorter, self contained how-to videos for new features/updates

Strategy 5: Clear Ownership and Support Signals

- Explicitly list maintainers and expected response channels
- Indicate support level:
  - Actively supported
  - Community supported
  - Legacy / frozen
- Reduces uncertainty for users choosing tools

Strategy 6: Onboarding Pathways

- Define recommended software stacks for common use cases
- Example pathways:
  - First-time analysis
  - Detector performance studies
  - Simulation-to-analysis pipeline
- Reduces cognitive load for new users

Strategy 7: How can we use AI tools?

- Increase findability
- AI helpdesk chatbot

Incentivizing Good Discoverability Practices

- Recognize software and documentation contributions
- Encourage citation of software tools
- Make discoverability part of software reviews and milestones
- Align practices with ePIC software expectations

Measuring Success

- Usage metrics (clones, downloads, tutorial attendance)
- Reduced onboarding time for new collaborators
- Fewer repeated questions about basic setup
- Increased cross-group reuse of detector and physics studies

Summary

- Discoverability is essential for scientific impact and sustainability
- Small, consistent practices scale better than ad hoc solutions
- Central indexing, metadata, documentation, and training are key
- Goal: make it easy for any ePIC collaborator to find, understand, and use the right software

Thanks!
Any questions?