

Safety, Analytics, Forecasting, and Evaluation Reporting (SAFER)

JIM O'BRIEN

J.R. SELLERS

NNSA ES&H (NA-ESH-20)



SAFER OVERVIEW

INNOVATE. COLLABORATE. DELIVER.

WHAT IS IT?

- **An innovative software platform that easily integrates Departmental databases**
 - Commercial Item
 - Configured to the needs of NNSA and M&O partners (specific for different use cases)
 - Contains a suite of data analysis, data visualization, and reporting capability

WHY ARE WE IMPLEMENTING IT?

- **Systems Approach to Oversight**
 - Rely on available data and reduce the need for, and impact of, transactional oversight
- **Objective Safety Management**
 - Improve our ability to understand and respond to the health and risk of safety management programs
 - Reduce our likelihood of relearning critical processes and lessons learned because of workforce attrition
- **Data-Informed Decision Making**
 - Improve our ability to use the information we currently collect and know what information should be collected
 - Plan and deploy resources in support of NNSA mission accomplishment
- **Mission Integration**
 - Improve our ability to inform NNSA programs of the impacts associated with safety management and reduce the likelihood of critical failure driven by inadequate communication

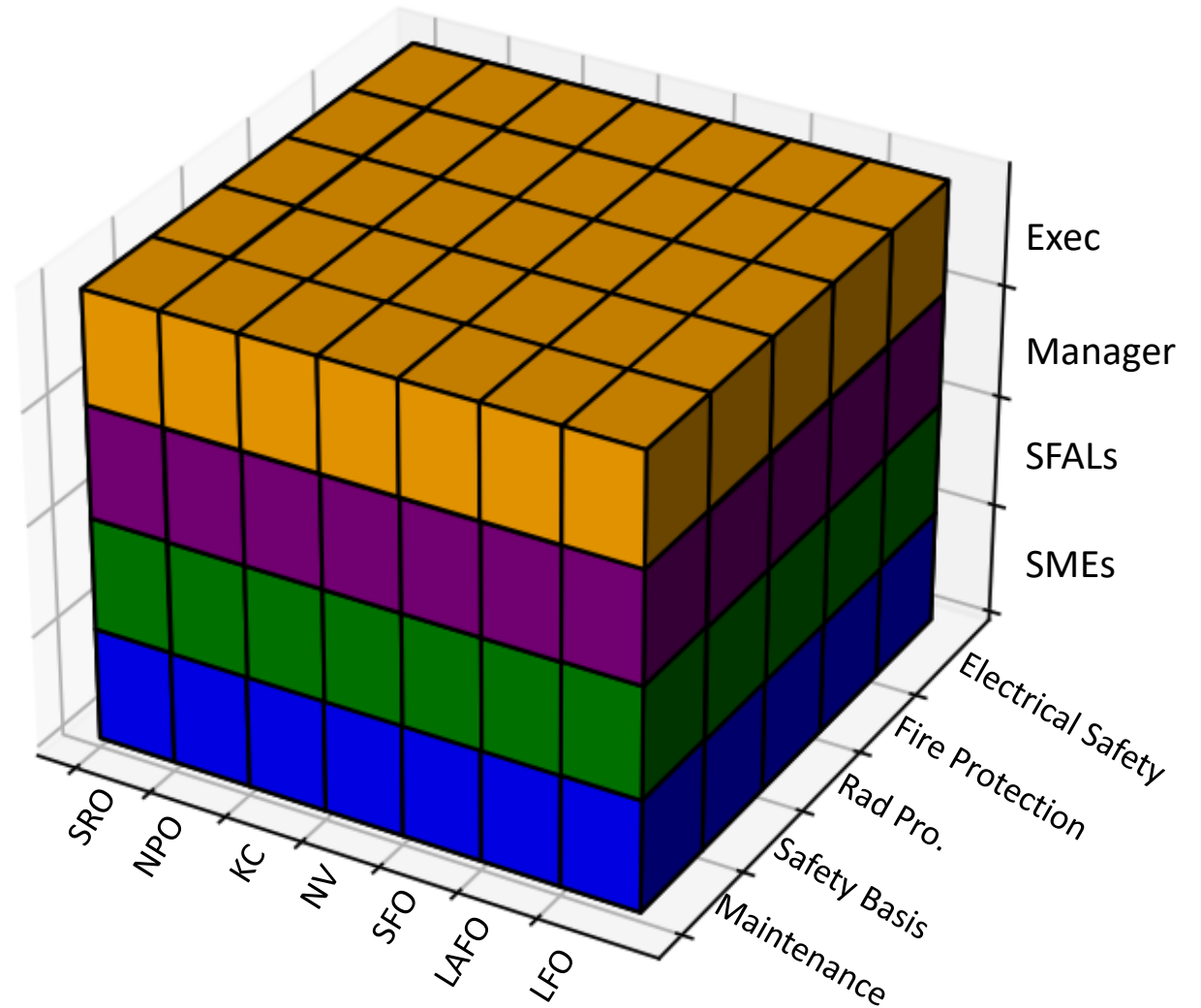
Getting the right information, to the right person, when they need it.

What is SAFER?

INNOVATE. COLLABORATE. DELIVER.

THE VISION

SAFER is designed to capture the knowledge of experts across Federal and M&O partners and build tools that will enable smarter, data-driven decision making for people across the complex: M&O Contractors, Field Offices, and HQ.



The SAFER Journey

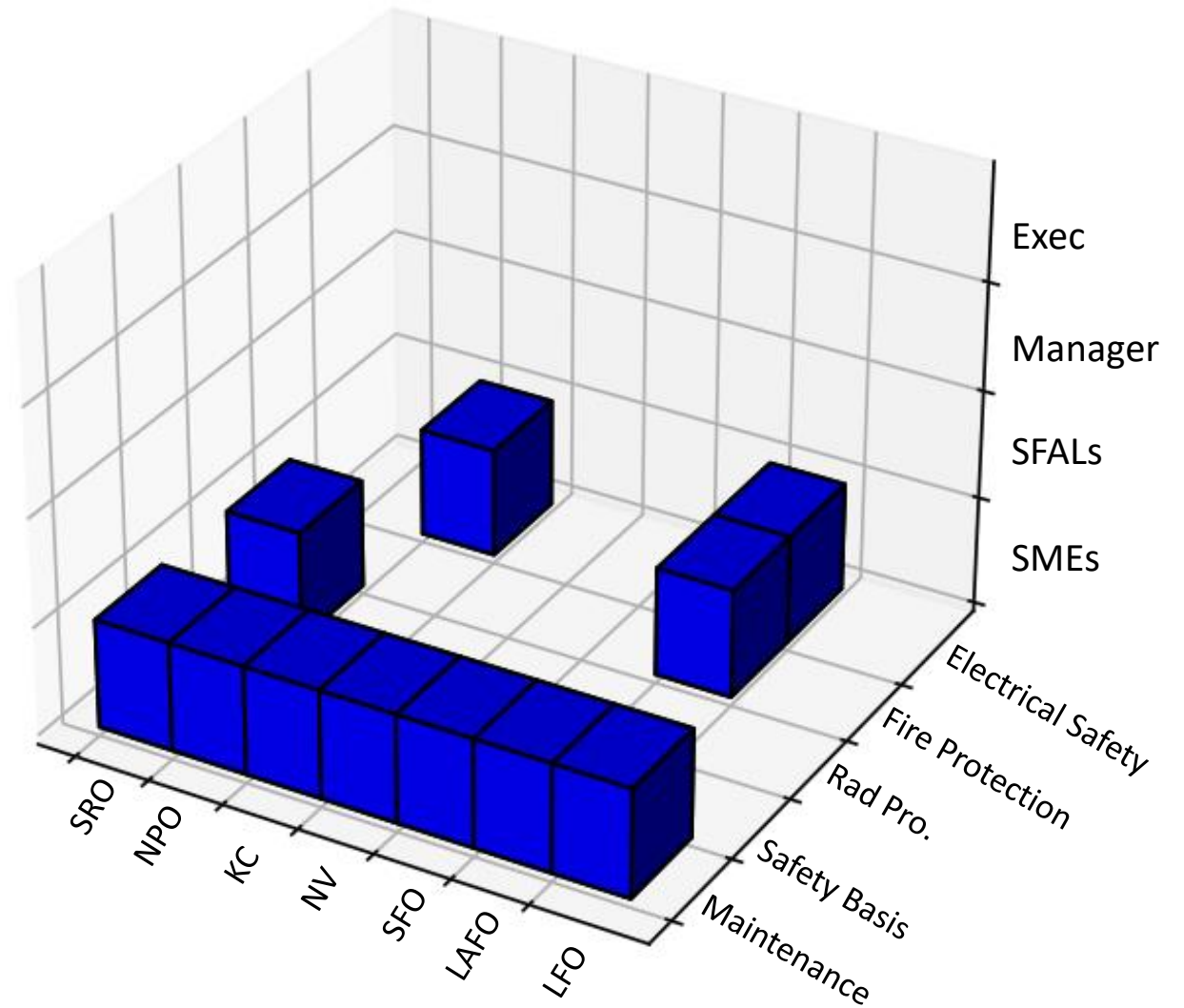
INNOVATE. COLLABORATE. DELIVER.

FIELD OFFICE FEEDBACK

April 2020

SFA Growth Plan

- Reached out to Field Offices to identify next target areas.
- Identified senior most expert in each Functional Area
- Showed them Maintenance prototype and asked them how they would modify it for their work
- Developed templates for each of the Functional Areas



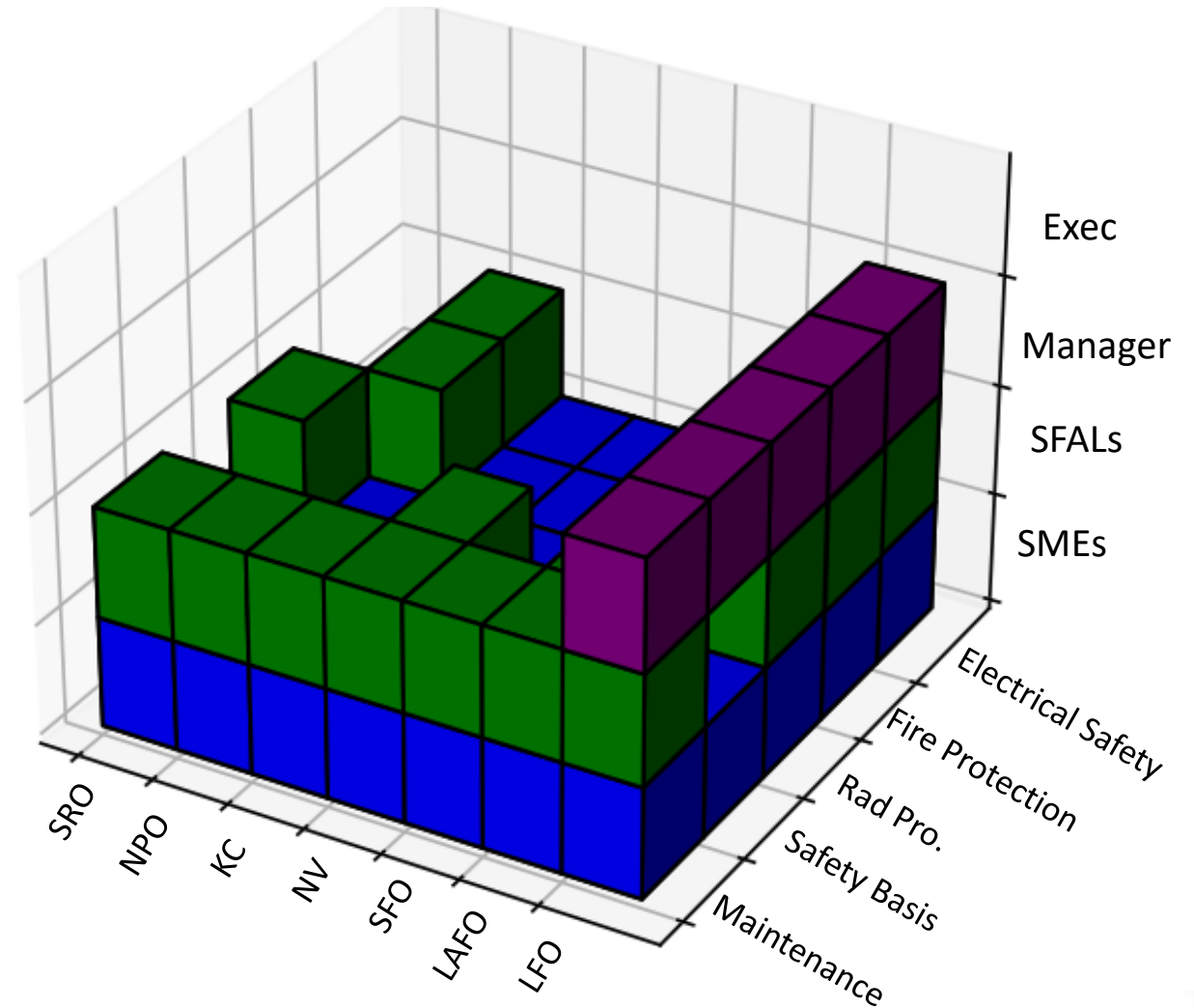
The SAFER Journey – So Far

INNOVATE. COLLABORATE. DELIVER.

ROLL OUT TO 5 FUNCTIONAL AREAS

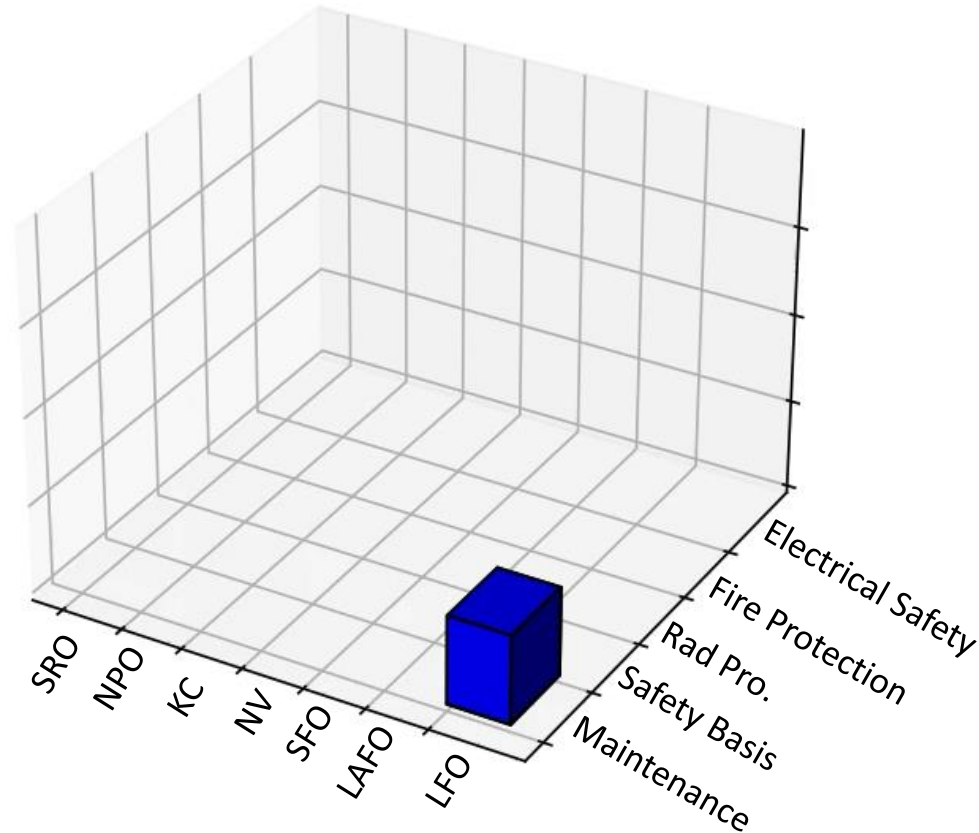
April 2021 to Present

- Develop prototype module for senior Field Office and M&O management



The SAFER Journey – Video

INNOVATE. COLLABORATE. DELIVER.



M&O Utilization Example: Triad (LANL)

INNOVATE. COLLABORATE. DELIVER.

December 2021

- Demo to Triad leadership on how SAFER could be used by M&O

February 2022

- Identification of target use cases with Triad leadership based on their needs and priorities
- Identification of use case data sources through in-depth discussions with Triad SMEs

March 2022 Onward: *Triad Use Case Buildout (examples below)*

- Equipment/part obsolescence tracking
- Fire Protection deficiencies tracking
- Radiation Protection program automated reporting
- Low-Voltage Asset Management (LAMP) tracking and prioritization
- Emergency Management Drills & Events tracking and correlation

SAFER – Data Analytics for Mission Support

INNOVATE. COLLABORATE. DELIVER.

What SAFER Does Not Require

- Creation of new data or new databases
- Expenditures of large amount of resources for setup or maintenance of SAFER

What SAFER Does For You

- Provides access to a wide range of near real-time data on a single platform
- Provides access to consistent sources of data for both the Feds and the M&O Contractors
- Minimizes the need for additional data collection and/or extrapolation of available limited data
- Reduces the number of data requests from the Feds
- Provides tailored data analytics that complement your current capabilities
- Provides access to a flexible platform with tailored data views & analytics to meet your management needs

SAFER – Data Analytics Grounded in Reality

INNOVATE. COLLABORATE. DELIVER.

What We Would like to Get From You

- Potential Use Cases

M&Os We Are Currently Working With

- Triad (Los Alamos)
- LLNS (Livermore)

Fire Protection Module - Desired Outcomes

INNOVATE. COLLABORATE. DELIVER.

Goals & Purpose

- Align on Fire Protection Working Group purpose and objectives
- Align on deadlines and schedule follow-up meetings
- Align on requirements and “definition of done” for V1 module

Data Deep-Dive

- Identify what the critical data elements for Fire Protection
- Align on next steps to answer in-depth data questions
- Share overview of Keywords and Alerts
- Show initial module enhancements and feedback mechanism
- Align on next steps and action items

Why Are We Here?

Reviewing the Module Building Process

INNOVATE. COLLABORATE. DELIVER.

The existing Fire Protection module was developed without significant input from across the NNSA:

- The pages and tabs did not support the types of day-to-day decision-making that fire protection SMEs would expect from the platform.
- The platform did not contain many datasets that SMEs use to answer core job questions.

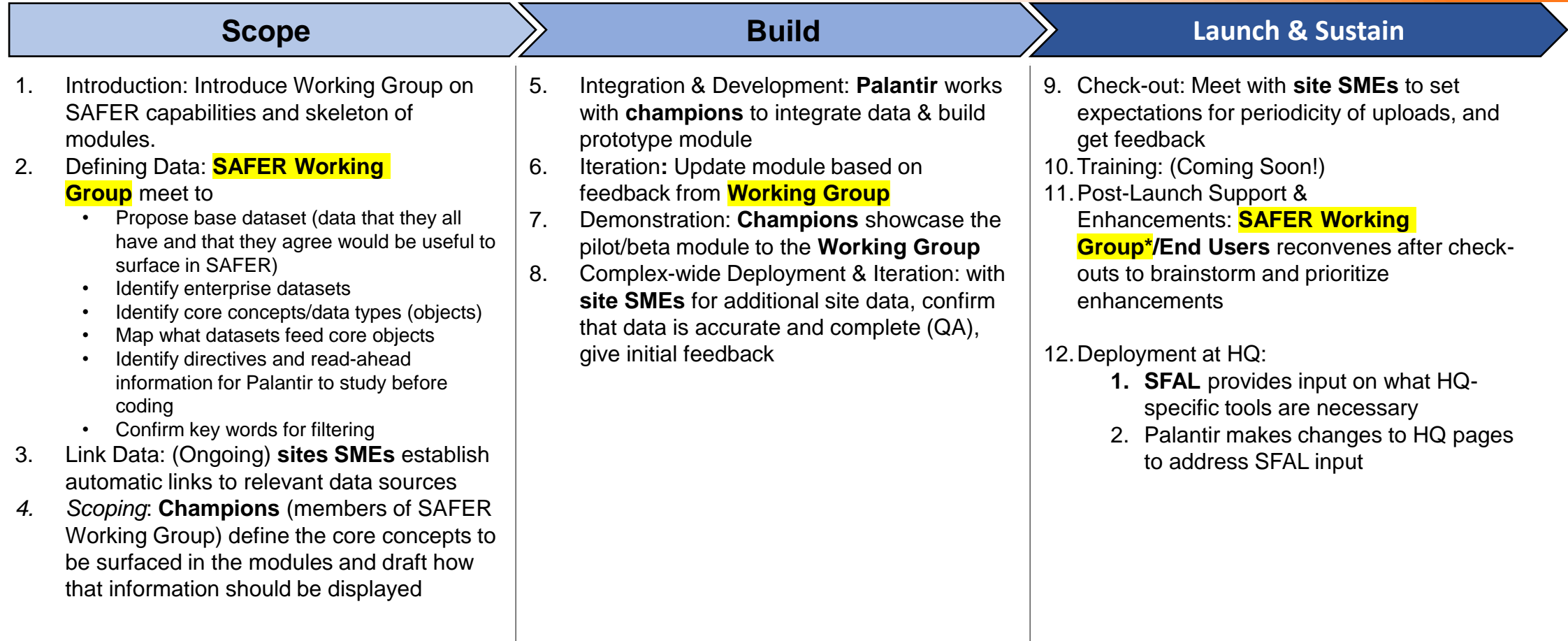
The SAFER Program Team has created **a new development process that prioritizes value for users** by emphasizing user input across the development cycle

- The SAFER Team works with the Working Group to identify critical datasets and works with Site Leads to remediate data gaps as early as possible.
- SAFER Working Groups include representatives from Field Office, Headquarters, and M&O.

Why Are We Here?

Reviewing the Module Building Process

INNOVATE. COLLABORATE. DELIVER.

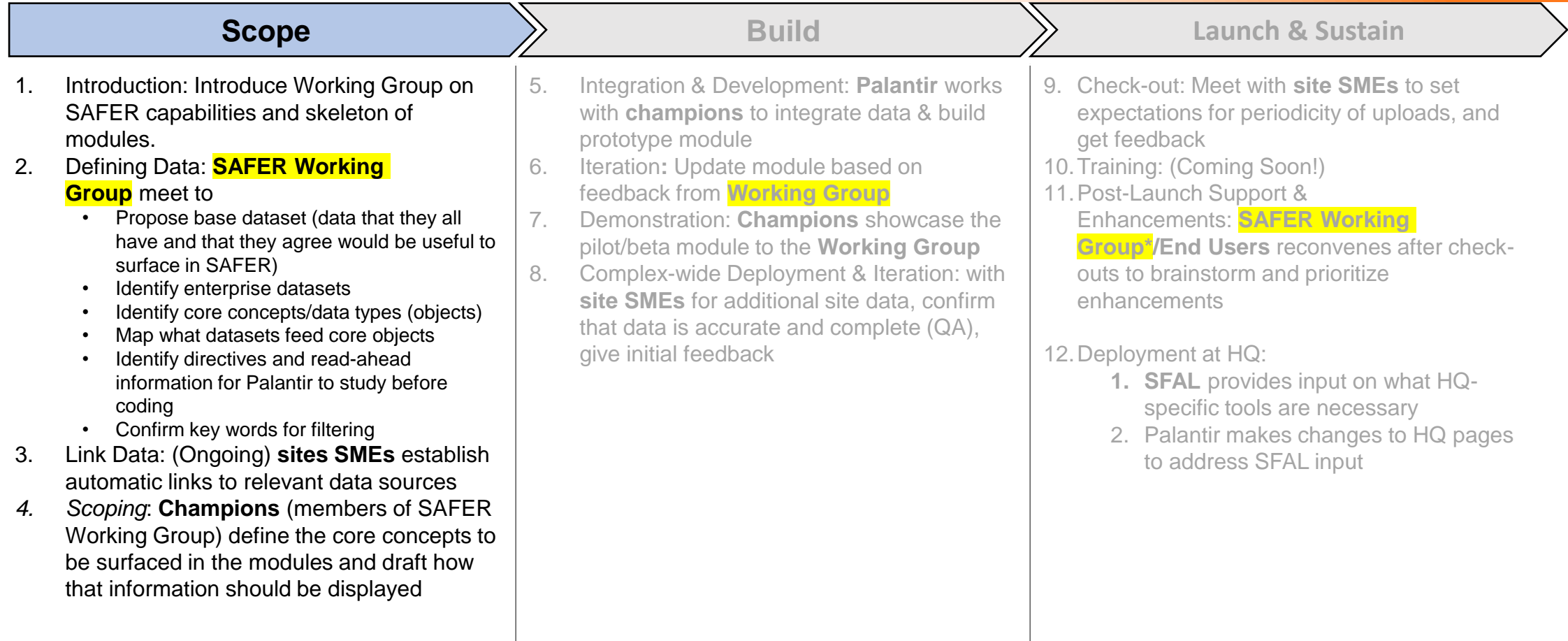


*Ongoing: Monitoring Data Health - **Palantir** monitors data to identify when data is not updating/being uploaded within established frequency and works with sites to address data connection issues

Why Are We Here?

Reviewing the Module Building Process

INNOVATE. COLLABORATE. DELIVER.



*Ongoing: Monitoring Data Health - **Palantir** monitors data to identify when data is not updating/being uploaded within established frequency and works with sites to address data connection issues

What do we Need to Do?

Defining V1 for SMP Modules

INNOVATE. COLLABORATE. DELIVER.

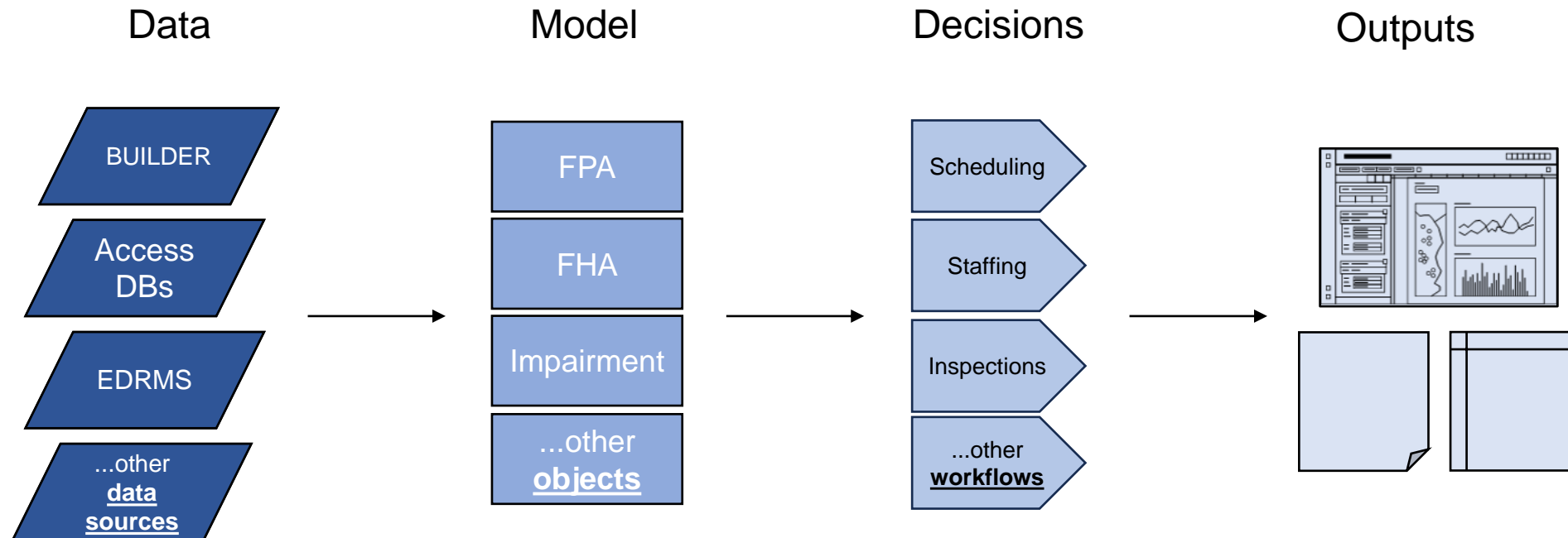
For the initial version of SMP modules, we are focused on launching several key pages with the required datasets from sites. Additional functionality may be used or requested for sites, depending on the functional area and site need.

	Inputs	Type
Required for Version 1	Base datasets integrated	Data
	Data health checks set up	Data
	Required documentation completed (ISAs, documentation on gaps in existing datasets)	Data
	Keyword Filters	Content
	Overview Page (Program Health)	Page
	- Key Metrics	Content
	- Alerting/Newsfeed	Content
	- Related Documents	Content
	Issue Management Page	Page
	Document Center	Page

	Inputs	Type
Priority 2	Assessments	Page
	Compliance Questions	Page & Content
	Data fully complete & correct	Data
	Ontology objects are linked	Data
	Additional site data	Data
	Support Toolbar (Info & Help Buttons)	Content
	Data upload date	Content
Priority 3	Compliance Questions	Page & Content
	Lessons Learned	Content
	Staffing & Training/Qualifications	Page
	SMP Specific Exploration Tools	Page
	Assessment Schedule	Content
	Expanded workflow/tools	Page

Baseline Data

INNOVATE. COLLABORATE. DELIVER.



We need to access **data** held in disconnected systems.

We need to **model** data to reflect the site's operations context ("ontology").

We need to make **decisions** by exploring possible options and choosing the best one.

We need to communicate decisions to diverse audiences with **outputs** they can use.

Keywords

INNOVATE. COLLABORATE. DELIVER.

The purpose of keywords is to help identify and surface objects (e.g. Facility, Work Orders, Documents, Issues, etc.) that are relevant to a given functional area, in our case Fire Protection

Having the correct keywords will ensure the correct objects are being surfaced in the Fire Protection module

Sample of Fire Protection Keywords

- Fire Hazard Analysis
- Combustible Loading
- Fire Door
- Fire Extinguisher
- Fire Suppression
- Heat Detector
- Firefighter
- Flammable Liquids
- And more...

We will follow-up with full keyword list to understand if any should be removed / added

Alerting

INNOVATE. COLLABORATE. DELIVER.

The purpose of alerts is to draw attention to what matters so that you can focus your time on mission-critical activities – not sifting through data.

SAFER has mechanisms to prompt users through notifications on the Fire Protection homepage. Capturing the correct alerts will ensure that newsfeed has the key pieces of useful information for Fire Protection.

Examples of Possible Alerts

- Facilities that are past due for their FPAs or FHA Review
- FPAs or FHA Reviews upcoming in the next month
- New Impairments created
- Impairment work upcoming in the next week

What alerts would be most valuable to your job?

Next Steps

INNOVATE. COLLABORATE. DELIVER.

- Continue meetings with SAFER Fire Protection Working Group
- Incorporate BNAs, Wildland Fire Management Plans into datasets
- Build an Impairment Workflow
- Deploy Deficiencies Workflow to requesting sites
- Improve HQ Module metrics for measuring enterprise effectiveness

Contact Info

INNOVATE. COLLABORATE. DELIVER.

J.R. Sellers
NNSA, NA-ESH-23
Joseph.sellers@nnsa.doe.gov
240-246-5727

Jim O'Brien
NNSA, NA-ESH-22
james.Obrien@nnsa.doe.gov
240-702-5577