

Attachment B:

AI Actors Across the AI Lifecycle
Revised NIST AI RMF Figure 2



AI Actors Across the AI Lifecycle

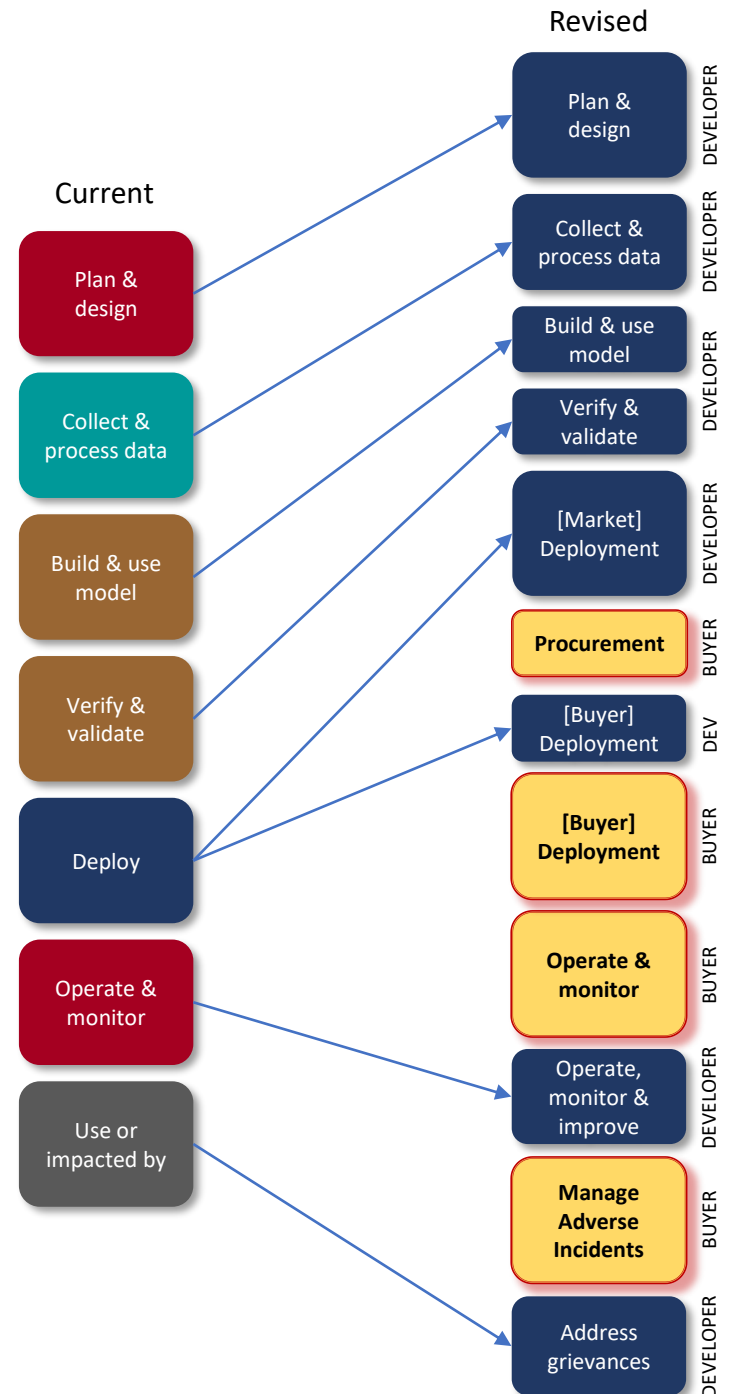
Revised NIST AI RMF Figure 2

Figure 2 of the AI RMF is a helpful guide. I would ask the NIST AI RMF team to consider the various contexts that are present in the market today. Here are a two examples:

- 1) **Buyer/Seller Partnership:** When the buyer commissions a highly-customized system from the developer (e.g., a health insurance benefits determination system), where the two parties function as a collaborative team, the current AI RMF lifecycle framework seems quite fitting.
- 2) **COTS Solution:** If a seller/developer creates a commercial off-the-shelf (COTS) solution on their own, without a buyer determining the features and functions, (e.g., a background check system), the current AI RMF lifecycle framework may be missing several critical risk-mitigation steps on the buyer's side of the risk equation.

Most notably, the procurement process, the deployment process, operating and monitoring the system, and managing adverse incidents will not only look different for the buyer but will also involve different AI actors during those steps of the AI lifecycle.

Additional details are provided in the following pages.



NIST AI Actors Across the AI Lifecycle

| | | |
|------------------------|--|--|
| Plan & design | Articulate and document the system's concept and objectives, underlying assumptions, context and requirements. | System operators, end-users, domain experts, AI designers, impact assessors, TEVV experts, product managers, compliance experts, auditors, governance experts, organizational management, end-users, affected individuals/communities, evaluators. |
| Collect & process data | Data collection & processing: gather, validate, and clean data and document the metadata and characteristics of the dataset | Data scientists, domain experts, socio-cultural analysis, human factors experts, data engineers, data providers, TEVV experts. |
| Build & use model | Create or select, train models or algorithms. | Modelers, model engineers, data scientists, developers, and domain experts. With consultation of socio-cultural analysts familiar with the application context, TEVV experts. |
| Verify & validate | Verify & validate, calibrate, and interpret model output. | |
| Deploy | Pilot, check compatibility with legacy systems, verify regulatory compliance, manage organizational change, and evaluate user experience. | System integrators, developers, systems/software engineers, domain experts, procurement experts, third-party suppliers with consultation of human factors experts, socio-cultural analysts, and governance experts, TEVV experts, end-users. |
| Operate & monitor | Operate the AI system and continuously assess its recommendations and impacts (both intended and unintended) in light of objectives and ethical consideration. | System operators, end-users, domain experts, AI designers, impact assessors, TEVV experts, product managers, compliance experts, auditors, governance experts, organizational management, end-users, affected individuals/communities, evaluators. |
| Use or impacted by | Use system/technology; monitor & assess impacts: seek mitigation of impacts: advocate for rights. | End-users, affected individuals/communities, general public; policy makers, standards organizations, trade associations, advocacy groups, environmental groups, civil society organizations, researchers. |

(Revised) AI Actors Across the AI Lifecycle

| Actor | Activity | Key Tasks | Key Stakeholders |
|-----------|----------------------------|--|--|
| DEVELOPER | Plan & design | Articulate and document the system's concept and objectives, underlying assumptions, context and requirements. | System operators, domain experts, AI designers, impact assessors, TEVV experts, product managers, compliance experts, auditors, governance experts, organizational management, end-users, affected individuals/communities, evaluators. |
| DEVELOPER | Collect & process data | Data collection & processing: gather, validate, and clean data and document the metadata and characteristics of the dataset | Data scientists, domain experts, socio-cultural analysis, human factors experts, data engineers, data providers, TEVV experts. |
| DEVELOPER | Build & use model | Create or select, train models or algorithms. | Modelers, model engineers, data scientists, developers, and domain experts. With consultation of socio-cultural analysts familiar with the application context, TEVV experts. |
| DEVELOPER | Verify & validate | Verify & validate, calibrate, and interpret model output. | |
| DEVELOPER | [Market] Deployment | Verify regulatory compliance, verify market acceptance of U/X, U/I, explainability, interpretability, privacy, security, transparency/disclosure features. | System integrators, developers, systems/software engineers, domain experts, procurement experts, third-party suppliers with consultation of human factors experts, socio-cultural analysts, and governance experts, TEVV experts, end-users. |
| BUYER | Procurement | Conduct a demo, request for proposal process, verify regulatory compliance, verify responsible design, check compatibility with intended integration systems, review independent security and VPAT audits, contract terms. | Buyer-side: Procurement, domain experts, System/software engineers, legal/risk experts, impact assessors, change management, finance/accounting Supplier-side: Sales, marketing, implementation staff, product managers, legal, finance |
| DEV | [Buyer] Deployment | Assist buyer with responsible system configuration, administrator training, and user training. | System integrators, domain experts, and governance experts, & TEVV experts. |
| BUYER | [Buyer] Deployment | Pilot, integrate with other systems, train employees, incorporate into governance practices, manage organizational change, and evaluate user experience. | System integrators, developers, systems/software engineers, domain experts, procurement experts, third-party suppliers with consultation of human factors experts, socio-cultural analysts, and governance experts, TEVV experts, end-users. |
| BUYER | Operate & monitor | Track, operate, and monitor the AI system; obtain clear consent, provide disclosure of use, continuously assess its recommendations and impacts (intended and unintended); assure appropriate use and user training, purge aging data. | System operators, domain experts, AI designers, impact assessors, TEVV experts, product managers, compliance experts, auditors, governance experts, organizational management, end-users, affected individuals/communities, evaluators. |
| DEVELOPER | Operate, monitor & improve | Monitor KPI's, monitor for algorithmic drift, publish updates, notify buyers, provide training and support | System integrators, domain experts, and governance experts, & TEVV experts. |
| BUYER | Manage Adverse Incidents | Provide adverse incident user awareness education and reporting paths; monitor & assess adverse incidents: seek mitigation of incidents: advocate for rights. | End-users, affected individuals/communities, general public; policy makers, standards organizations, trade associations, advocacy groups, environmental groups, civil society organizations, researchers. |
| DEVELOPER | Address grievances | Log, review, assess, and address individual, group, and systemic adverse incidents. | System integrators, developers, systems/software engineers, domain experts, product managers, governance experts, affected individuals/communities, evaluators. |