| Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army | | | | | | | | | | | **Date:** February 2015 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

| **Appropriation/Budget Activity** 2040: *Research, Development, Test & Evaluation, Army I* BA 7: *Operational Systems Development* | **R-1 Program Element (Number/Name)** PE 0203758A *I Digitization* |
|---|---|

| COST ($ in Millions) | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total Program Element | - | 5.978 | 5.993 | 4.361 | - | 4.361 | 7.034 | 6.520 | 5.697 | 5.485 | Continuing | Continuing |
| 374: *HOR Battlefld Digitizn* | - | 5.978 | 5.993 | 4.361 | - | 4.361 | 7.034 | 6.520 | 5.697 | 5.485 | Continuing | Continuing |

## A. Mission Description and Budget Item Justification

Horizontal Battlefield Digitization is a strategy that allows warfighters, from the individual soldier and platform to echelons above corps, to share critical situation awareness (SA) and command and control (C2) information. It conducts analysis and evaluation of new information technologies, concepts, and applications of integrated management activities. Digital information technologies to acquire, exchange, and employ data throughout the operational environment, are used to provide an operational picture for leaders. This timely sharing of information significantly improves the ability to quickly make decisions, synchronize forces and fires, and increase the operational tempo. The major efforts included in the program element are: 1) Integration and synchronization of the Army's interoperability efforts; between joint and multi-national forces, combat material, and training efforts. 2) Systems engineering and integration of hardware and software from a System of Systems (SOS) perspective. 3) Develop Army Equipping Enterprise System (AE2S) integration of the Force Development Investment Information System (FDIIS), Army Flow Model (AFM), and Force Development Knowledge Center (FDKC) programs into a single integrated system.

Digitization efforts are in support of the Army Equipping Strategy, National Defense Authorization Act 804, and OSD reports to Congress.

The FY 2016 funding request was reduced by $1.755 million to account for the availability of prior year execution balances.

## B. Program Change Summary ($ in Millions)

| | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total |
|---|---|---|---|---|---|
| Previous President's Budget | 6.183 | 10.912 | 15.035 | - | 15.035 |
| Current President's Budget | 5.978 | 5.993 | 4.361 | - | 4.361 |
| Total Adjustments | -0.205 | -4.919 | -10.674 | - | -10.674 |
| • Congressional General Reductions | - | -0.003 | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | -0.205 | - | | | |
| • Adjustments to Budget Years | - | -4.916 | -10.674 | - | -10.674 |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Army | | | | | | | | | | **Date:** February 2015 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Appropriation/Budget Activity**<br>2040 *I* 7 | | | | **R-1 Program Element (Number/Name)**<br>PE 0203758A *I Digitization* | | | | **Project (Number/Name)**<br>374 *I HOR Battlefld Digitizn* | | | |
| **COST ($ in Millions)** | **Prior Years** | **FY 2014** | **FY 2015** | **FY 2016 Base** | **FY 2016 OCO** | **FY 2016 Total** | **FY 2017** | **FY 2018** | **FY 2019** | **FY 2020** | **Cost To Complete** | **Total Cost** |
| 374: *HOR Battlefld Digitizn* | - | 5.978 | 5.993 | 4.361 | - | 4.361 | 7.034 | 6.520 | 5.697 | 5.485 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

## A. Mission Description and Budget Item Justification

Horizontal Battlefield Digitization is a strategy that allows warfighters, from the individual soldier and platform to echelons above corps, to share critical situation awareness (SA) and command and control (C2) information. It conducts analysis and evaluation of new information technologies, concepts, and applications of integrated management activities. Digital information technologies to acquire, exchange, and employ data throughout the operational environment, are used to provide an operational picture for leaders. This timely sharing of information significantly improves the ability to quickly make decisions, synchronize forces and fires, and increase the operational tempo. The major efforts included in the program element are: 1) Integration and synchronization of the Army's interoperability efforts; between joint and multi-national forces, combat material, and training efforts. 2) Systems engineering and integration of hardware and software from a System of Systems (SOS) perspective. 3) Develop Army Equipping Enterprise System (AE2S) integration of the Force Development Investment Information System (FDIIS), Army Flow Model (AFM), and Force Development Knowledge Center (FDKC) programs into a single integrated system.

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| **Title:** Interoperability Assessment<br><br>**Description:** Funds are to be used for the following efforts<br><br>**FY 2014 Accomplishments:**<br>Conducted technical interoperability assessments, performed interoperability/integration analysed, analyze networked weapon system and  Situational Awareness (SA), Command and Control (C2) systems compatibility and assessed technical and operational test plans, activities, and results.<br><br>**FY 2015 Plans:**<br>Conduct technical interoperability assessments, perform interoperability/integration analyses, analyze networked weapon system and  Situational Awareness (SA), Command and Control (C2) systems compatibility and assess technical and operational test plans, activities, and results.<br><br>**FY 2016 Plans:**<br>Will conduct technical interoperability assessments, perform interoperability/integration analyses, analyze networked weapon system and  Situational Awareness (SA), Command and Control (C2) systems compatibility and assess technical and operational test plans, activities, and results. | 0.886 | 1.073 | 0.537 |
| **Title:** SA/C2<br><br>**Description:** Funds are to be used for the following efforts | 1.091 | 0.961 | 0.482 |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Army | | Date: February 2015 |
|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203758A / Digitization | Project (Number/Name)<br>374 / HOR Battlefld Digitizn |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| **FY 2014 Accomplishments:**<br>Integrated and synchronized interoperability across Situational Awareness (SA)/Command & Control (C2) programs in support of acquisition synchronization, testing, training, and fielding System of Systems capabilities to the Army Force.  Continue application across current and future force.<br><br>**FY 2015 Plans:**<br>Integrate and synchronize interoperability across Situational Awareness (SA)/Command & Control (C2) programs in support of acquisition synchronization, testing, training, and fielding System of Systems capabilities to the Army Force.  Continue application across current and future force.<br><br>**FY 2016 Plans:**<br>Will integrate and synchronize interoperability across Situational Awareness (SA)/Command & Control (C2) programs in support of acquisition synchronization, testing, training, and fielding System of Systems capabilities to the Army Force.  Continue application across current and future force. | | | |
| **Title:** Digitization Technical Integration<br><br>**Description:** Support digitization technical integration with Active and Reserve Components both CONUS and OCONUS.<br><br>**FY 2014 Accomplishments:**<br>Supported digitization technical integration with Active and Reserve Components both CONUS and OCONUS.<br><br>**FY 2015 Plans:**<br>Support digitization technical integration with Active and Reserve Components both CONUS and OCONUS.<br><br>**FY 2016 Plans:**<br>Will support digitization technical integration with Active and Reserve Components both CONUS and OCONUS. | 1.071 | 1.103 | 0.592 |
| **Title:** AE2S Software<br><br>**Description:** Procures AE2S software integration and enhancements for the single program language, single platform system that incorporates FDIIS, CEaVa, COP and AFM.<br><br>**FY 2014 Accomplishments:**<br>Army Equipping Enterprise System (AE2S) software integration and enhancements for the single program language, single platform system that incorporates the EE PEGs Force Development Integration & Information System (FDIIS), Force Development Knowledge Center (FDKC), Common Operational Picture (COP) and Army Force Management (AFM).<br><br>**FY 2015 Plans:** | 0.806 | 0.938 | 0.966 |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Army | | Date: February 2015 | |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203758A / *Digitization* | Project (Number/Name)<br>374 / *HOR Battlefld Digitizn* | |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| Army Equipping Enterprise System (AE2S) software integration and enhancements for the single program language, single platform system that incorporates the EE PEGs Force Development Integration & Information System (FDIIS), Force Development Knowledge Center (FDKC), Common Operational Picture (COP) and Army Force Management (AFM).<br><br>*FY 2016 Plans:*<br>Army Equipping Enterprise System (AE2S) software integration and enhancements for the single program language, single platform system that incorporates the EE PEGs Force Development Integration & Information System (FDIIS), Force Development Knowledge Center (FDKC), Common Operational Picture (COP) and Army Force Management (AFM). | | | |
| *Title:* Joint & Coalition Interoperability<br><br>*Description:* Support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements.<br><br>*FY 2014 Accomplishments:*<br>Supported Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements.<br><br>*FY 2015 Plans:*<br>Support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements.<br><br>*FY 2016 Plans:*<br>Will support Joint and Coalition interoperability programs to improve integration and interoperability in accordance with Army Software Blocking Policy, Joint Planning Guidance, Coalition Specifications, Joint Capabilities Integration and Development System (JCIDS) requirements.The FY16 funding request was reduced $186K to account for the availability of prior year execution balances. | 0.944 | 0.826 | 0.661 |
| *Title:* Academic Research<br><br>*Description:* Apply university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces.<br><br>*FY 2014 Accomplishments:* | 0.506 | 0.522 | 0.538 |

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Army | | Date: February 2015 |
|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203758A / Digitization | Project (Number/Name)<br>374 / HOR Battlefld Digitizn |

| B. Accomplishments/Planned Programs ($ in Millions) | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|
| Applied university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces.<br><br>*FY 2015 Plans:*<br>Apply university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces.<br><br>*FY 2016 Plans:*<br>Will apply university academic and research resources to the integration of Army complex modeling, simulation, and training in support of modernized forces. | | | |
| *Title:* Cross-platform development<br><br>*Description:* Manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation.<br><br>*FY 2014 Accomplishments:*<br>Managed cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation.<br><br>*FY 2015 Plans:*<br>Manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation.<br><br>*FY 2016 Plans:*<br>Will manage cross-platform software and hardware development, testing, training, and fielding to ensure the coordinated interoperability for each Army Force unit rotation. | 0.674 | 0.570 | 0.585 |
| Accomplishments/Planned Programs Subtotals | 5.978 | 5.993 | 4.361 |

**C. Other Program Funding Summary ($ in Millions)**
 N/A

**Remarks**
 Not Applicable for this item

**D. Acquisition Strategy**
 To validate/demonstrate concepts and requirements, near term efforts are focused on developing a seamless battlefield software architecture and digitized hardware systems to include:  evaluation of the horizontal battlefield digitization resources for systems, acquisition, integration, and testing of digital capability across multiple command and control, communications, sensors, and weapons platforms.  The result will be an integrated, synchronized capability designed to meet the near-term

| **Exhibit R-2A**, **RDT&E Project Justification:** PB 2016 Army | | **Date:** February 2015 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 *I* 7 | **R-1 Program Element (Number/Name)**<br>PE 0203758A *I Digitization* | **Project (Number/Name)**<br>374 *I HOR Battlefld Digitizn* |

requirements of the Stryker Brigade Combat Teams and the Army Future Force.  Also supports the Army's role in joint and multi-national digitization programs, battle command efforts and Joint Battlefield Situational Awareness.

**E. Performance Metrics**

N/A

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army | | | Date: February 2015 |
|---|---|---|---|
| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203758A / Digitization | | Project (Number/Name)<br>374 / HOR Battlefld Digitizn |

### Management Services ($ in Millions)

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2014 | | FY 2015 | | FY 2016 Base | | FY 2016 OCO | | FY 2016 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Digitization Technical Integration | Various | Various : Various | 3.018 | 1.071 | | 1.103 | | 0.592 | | - | | 0.592 | - | 5.784 | - |
| Joint & Coalition Interoperability | Various | Various : Various | 2.660 | 0.944 | | 0.826 | | 0.661 | | - | | 0.661 | - | 5.091 | - |
| Subtotal | | | 5.678 | 2.015 | | 1.929 | | 1.253 | | - | | 1.253 | - | 10.875 | - |

### Product Development ($ in Millions)

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2014 | | FY 2015 | | FY 2016 Base | | FY 2016 OCO | | FY 2016 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Army Equipping Enterprise SYstem (AE2S) Software | C/CPFF | TBD : TBD | 2.271 | 0.806 | | 0.938 | | 0.966 | | - | | 0.966 | Continuing | Continuing | Continuing |
| Cross-Platform Development | Various | TBD : TBD | 1.899 | 0.674 | | 0.570 | | 0.585 | | - | | 0.585 | - | 3.728 | - |
| Subtotal | | | 4.170 | 1.480 | | 1.508 | | 1.551 | | - | | 1.551 | - | - | - |

### Support ($ in Millions)

| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | FY 2014 | | FY 2015 | | FY 2016 Base | | FY 2016 OCO | | FY 2016 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Interoperability Assessment | Various | Various : Various | 2.497 | 0.886 | | 1.073 | | 0.537 | | - | | 0.537 | - | 4.993 | - |
| Situational Awareness (SA) / Command & Control (C2) | Various | Various : Various | 3.074 | 1.091 | | 0.961 | | 0.482 | | - | | 0.482 | - | 5.608 | - |
| Academic Research | Various | Various : Various | 1.426 | 0.506 | | 0.522 | | 0.538 | | - | | 0.538 | - | 2.992 | - |
| Subtotal | | | 6.997 | 2.483 | | 2.556 | | 1.557 | | - | | 1.557 | - | 13.593 | - |

| | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|
| Project Cost Totals | 16.845 | 5.978 | 5.993 | 4.361 | - | 4.361 | - | - | - |

| Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army | | | | | | | | | Date: February 2015 | |
|---|---|---|---|---|---|---|---|---|---|---|
| Appropriation/Budget Activity 2040 / 7 | | | | R-1 Program Element (Number/Name) PE 0203758A / Digitization | | | | Project (Number/Name) 374 / HOR Battlefld Digitizn | | |
| | Prior Years | FY 2014 | FY 2015 | FY 2016 Base | FY 2016 OCO | FY 2016 Total | Cost To Complete | Total Cost | Target Value of Contract |
| **Remarks** | | | | | | | | | | |

**Exhibit R-4**, **RDT&E Schedule Profile:** PB 2016 Army | **Date:** February 2015

| Appropriation/Budget Activity<br>2040 / 7 | R-1 Program Element (Number/Name)<br>PE 0203758A / Digitization | Project (Number/Name)<br>374 / HOR Battlefld Digitizn |
|---|---|---|

| Event Name | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Interoperability Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| **Exhibit R-4A**, **RDT&E Schedule Details:** PB 2016 Army | | **Date:** February 2015 |
|---|---|---|
| **Appropriation/Budget Activity**<br>2040 *I* 7 | **R-1 Program Element (Number/Name)**<br>PE 0203758A *I Digitization* | **Project (Number/Name)**<br>374 *I HOR Battlefld Digitizn* |

Schedule Details

| **Events** | **Start** | | **End** | |
|---|---|---|---|---|
| | **Quarter** | **Year** | **Quarter** | **Year** |
| Interoperability Assessment | 1 | 2015 | 4 | 2020 |