



U.S. ARMY COMBAT CAPABILITIES DEVELOPMENT COMMAND – GROUND VEHICLE SYSTEMS CENTER

Accessing ROS-M & RTK

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OPSEC7209



ACCESSING ROS-M & RTK



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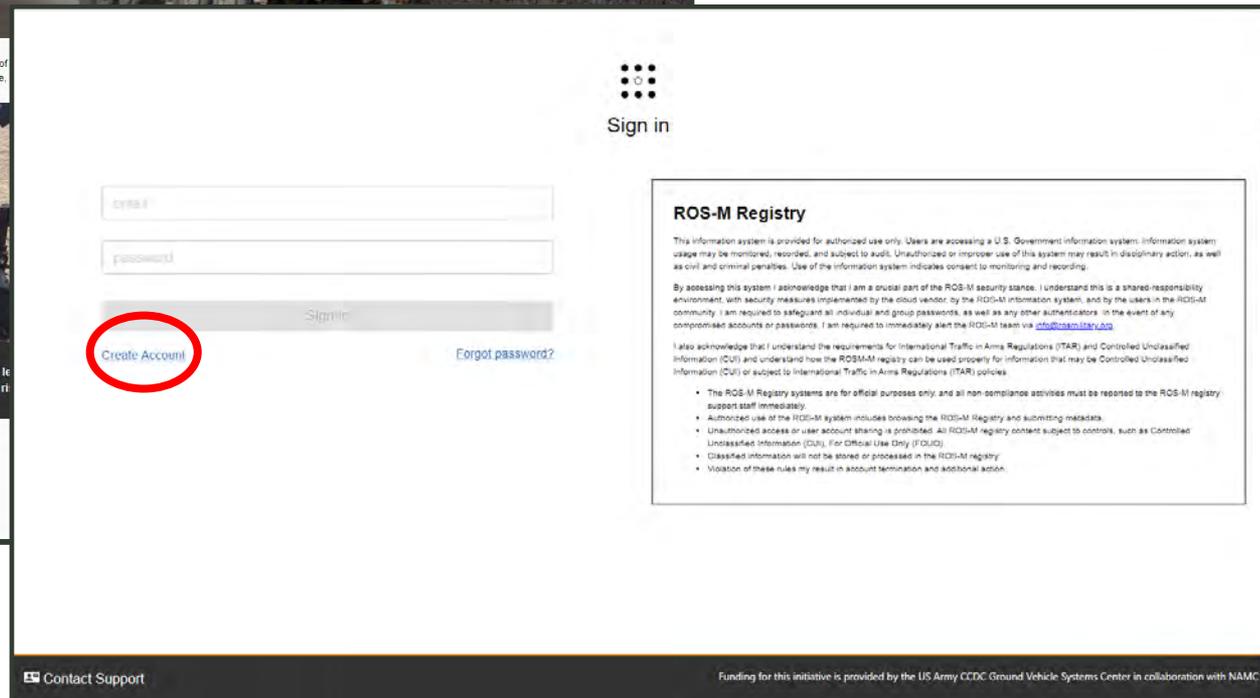
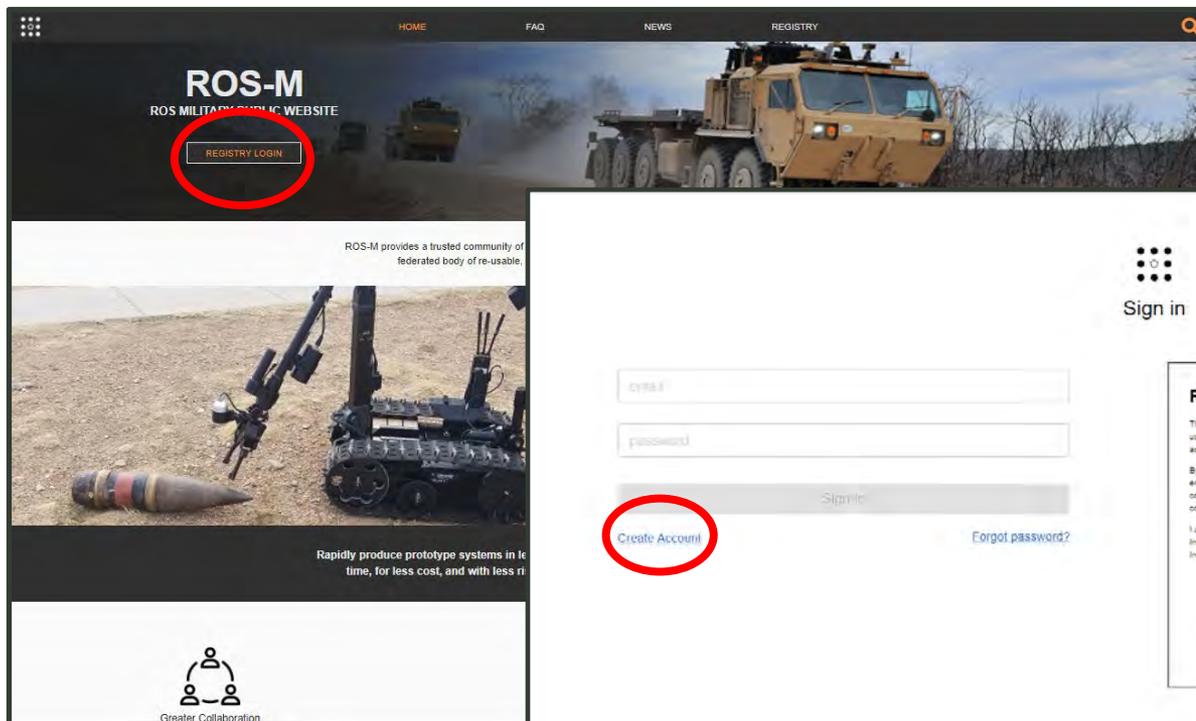
- If you have any questions, please contact support@rosmilitary.org.



ACCESSING ROS-M



1. Go to <https://rosmilitary.org/> and click the REGISTRY LOGIN button as shown on the left, and then the Create Account link on the next page as shown on the right.





ACCESSING ROS-M



2. Fill out the questionnaire including email address and password to be used to access the ROS-M site once access is approved.

New to ROS-M?

Get started below

ROS-M Registry

This information system is provided for authorized use only. Users are accessing a U.S. Government information system. Information system usage may be monitored, recorded, and subject to audit. Unauthorized or improper use of this system may result in disciplinary action, as well as civil and criminal penalties. Use of the information system indicates consent to monitoring and recording.

By accessing this system I acknowledge that I am a crucial part of the ROS-M security stance. I understand this is a shared-responsibility environment, with security measures implemented by the cloud vendor, by the ROS-M information system, and by the users in the ROS-M community. I am required to safeguard all individual and group passwords, as well as any other authenticators. In the event of any compromised accounts or passwords, I am required to immediately alert the ROS-M team via info@rosmilitary.com.

I also acknowledge that I understand the requirements for International Traffic in Arms Regulations (ITAR) and Controlled Unclassified Information (CUI) and understand how the ROS-M registry can be used properly for information that may be Controlled Unclassified Information (CUI) or subject to International Traffic in Arms Regulations (ITAR) policies.

- The ROS-M Registry systems are for official purposes only, and all non-compliance activities must be reported to the ROS-M registry support staff immediately.
- Authorized use of the ROS-M system includes browsing the ROS-M Registry and submitting metadata.
- Unauthorized access or user account sharing is prohibited. All ROS-M registry content subject to controls, such as Controlled Unclassified Information (CUI), For Official Use Only (FOUO).
- Classified information will not be stored or processed in the ROS-M registry.
- Violation of these rules may result in account termination and additional action.

Are you a U.S. citizen representing a company or organization that has an active contracting relationship with DoD, or you registered with a .mil e-mail address?

Yes No

Your ROS-M Credentials

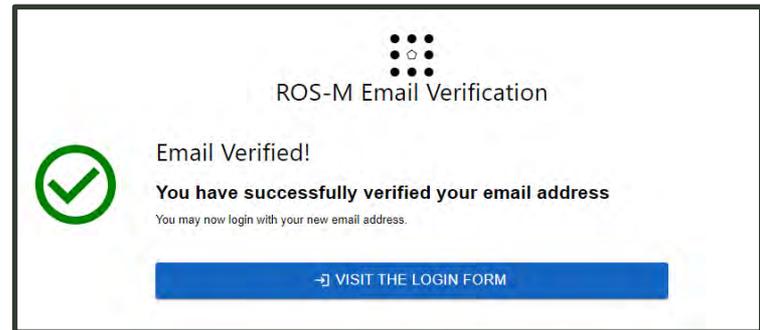
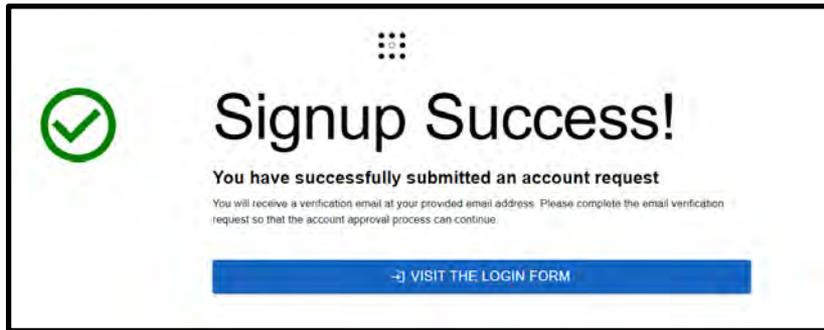
<input type="text" value="Email Address *"/> <small>✉ Email Address</small>	<input type="text" value="Phone"/> <small>🇺🇸 +1</small>
<input type="password" value="ROS-M Password*"/> <small>🔒 ROS-M Password*</small>	<input type="password" value="Confirm Password (type Again)*"/> <small>🔒 Confirm Password (type Again)*</small>
<input type="text" value="Citizenship *"/> <small>🇺🇸 Citizenship *</small>	<input type="text" value="Organization *"/> <small>🏢 Organization</small>
<input type="text" value="First Name *"/> <small>👤 First Name</small>	<input type="text" value="Last Name *"/> <small>👤 Last Name</small>



ACCESSING ROS-M



3. A confirmation email will be generated to the email address that you specified. Click the link in the confirmation email to confirm your email address.

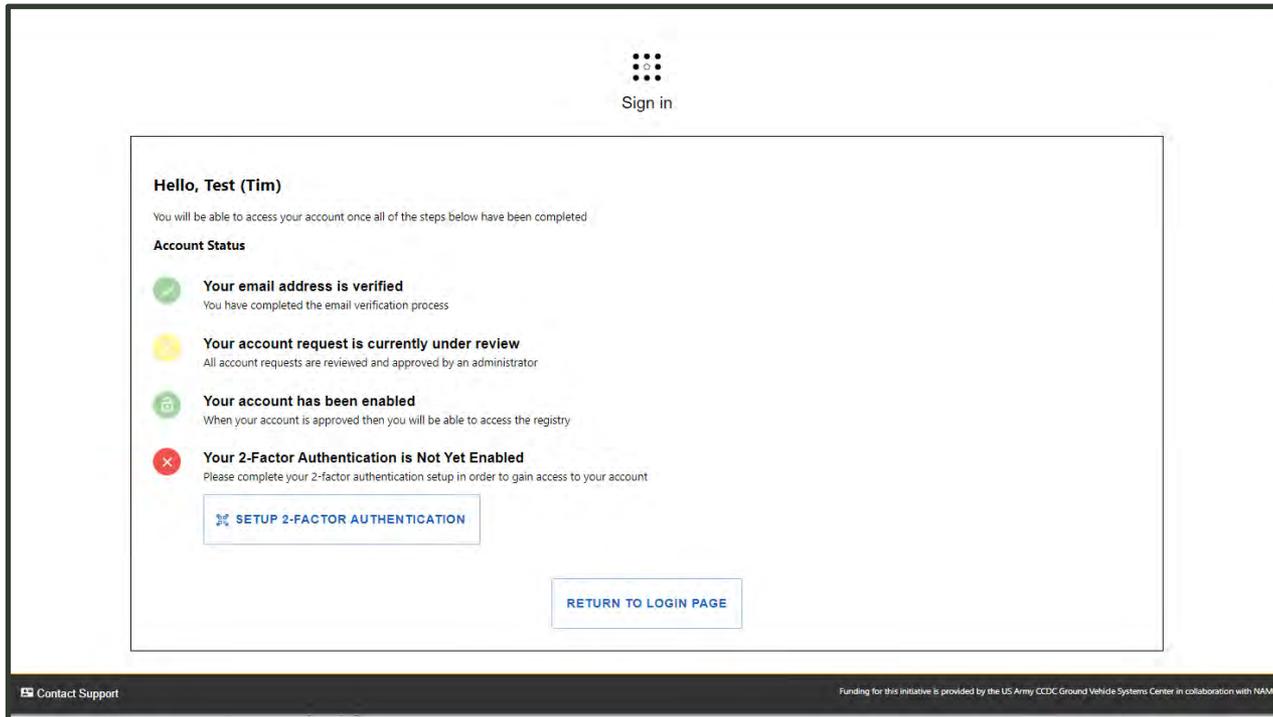




ACCESSING ROS-M



4. Visiting the Login Form will provide a status of your account.



5. ROS-M requires 2-Factor Authentication via an app such as Google Authenticator or Duo. Click that button to set-up your 2FA.



ACCESSING ROS-M



- Once your account is approved, you will receive an email stating your account is now active. If additional information is needed, an email will be sent requesting this information.

The screenshot displays the ROS-M web interface. The top navigation bar includes the ROS-M logo, a search bar, an 'UPLOAD' button, and a user profile for 'TEST (TIM) TEST LAST'. The main content area is titled 'Discover' and shows a table of ROS-M RTK versions. The table has columns for Title, Type, Custodian, Link Type, Status, Distribution, and Last Updated. The entries are for ROS-M RTK 2022, 2021, 2020, and 2019, all with a status of 'D' and a distribution of 'D'. The bottom of the page includes a 'Sign Out' button and a footer note: 'Funding for this initiative is provided by the US Army CCDC Ground Vehicle Systems Center in collaboration with NAMC.'

Title	Type	Custodian	Link Type	Status	Distribution	Last Updated
ROS-M RTK 2022 **ROS-M RTK 2022** ROSMRTK 2022 is a significant update from 2021 including improvements to performance and stability The Robotic Technology Kernel ... RTK RTK 2022	Installation	timothy.j.thomas137.cdr@army.mil	...	D	D	2 months ago
ROS-M RTK 2021 **ROS-M RTK 2021** ROSMRTK 2021 is a significant update from 2020 including improvements to performance and stability. New functionality includes lat... RTK RTK 2021	Installation	timothy.j.thomas137.cdr@army.mil	...	D	D	3 months ago
ROS-M RTK 2020 **ROS-M RTK 2020** The Robotic Technology Kernel (RTK) is a Robot Operating System (ROS)-based modular autonomy software library for S&T development ... RTK RTK 2020	Installation	timothy.j.thomas137.cdr@army.mil	...	D	D	2 years ago
ROS-M RTK 2019 **ROS-M RTK 2019** The Robotic Technology Kernel (RTK) is a Robot Operating System (ROS)-based modular autonomy software library for S&T development ... RTK RTK 2019	Installation	timothy.j.thomas137.cdr@army.mil	...	D	D	2 years ago



ACCESSING ROS-M - CSR



ROS-M has been enhanced with the addition of Common Specification Reference (CSR) content. This provides the capability within ROS-M to register information such as projects, hardware, test reports, etc.

1. To request access to CSR content, select your profile from the upper right of the ROS-M page:

The screenshot shows the ROS-M web application interface. The top navigation bar includes a search bar, an 'UPLOAD' button, and a user profile icon circled in red. The main content area displays a list of ROS-M RTK versions with columns for Title, Type, Custodian, Link Type, Status, Distribution, and Last Updated.

Title	Type	Custodian	Link Type	Status	Distribution	Last Updated
ROS-M RTK 2022 **ROS-M RTK 2022** ROSMRTK 2022 is a significant update from 2021 including improvements to performance and stability. The Robotic Technology Kernel ... RTK RTK_2022	Installation	timothy.j.thomas137.ctr@army.mil			D	2 months ago
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ACCESSING ROS-M - CSR



2. Scroll down and then select the Request Access Button in the CSR section and then fill out the reason for access. You will receive an email when your request as been processed.

The screenshot displays the ROS-M user interface. On the left is a navigation menu with categories like 'Discover', 'ROS', 'Packages', and 'Instantiations'. The main content area is divided into several sections: 'Profile', 'Documents', 'CSR', 'Security', and '2-Factor Authentication'. The 'CSR' section is highlighted, showing 'No Access' and 'No Requests'. A red circle is drawn around the 'REQUEST ACCESS' button in the CSR section. The 'Documents' section above it shows 'No Documents Available' and an 'UPLOAD' button. The 'Security' section shows 'Last Login' as 'January, 10 2023 @ 10:25 AM' and a 'CHANGE PASSWORD' button. The '2-Factor Authentication' section is partially visible at the bottom. The URL 'https://registry.ros.military.org/profile' is visible in the bottom left corner, and a funding notice is in the bottom right corner.



ACCESSING ROS-M - CSR



2. If CSR access is approved additional content will be shown on the left side of the ROS-M page.

The screenshot shows the ROS-M Discover page. The main content is a table with the following data:

Title	Type	Custodian	Link Type	Status	Distribution	Last Updated
ROS-M RTK 2022 **ROS-M RTK 2022** ROSMRTK 2022 is a significant update from 2021 including improvements to performance and stability The Robotic Technology Kernel ...	instantiation	timothy.j.thomas137.ctr@army.mil	Grid	Open	D	2 months ago
ROS-M RTK 2021 **ROS-M RTK 2021** ROSMRTK 2021 is a significant update from 2020 including improvements to performance and stability. New functionality includes lat...	instantiation	timothy.j.thomas137.ctr@army.mil	Grid	Open	D	3 months ago
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ROS-M RTK 2019 **ROS-M RTK 2019** The Robotic Technology Kernel (RTK) is a Robot Operating System (ROS)-based modular autonomy software library for S&T development ...	instantiation	timothy.j.thomas137.ctr@army.mil	Grid	Open	D	2 years ago

The sidebar menu on the left includes: Discover, ROS, Packages, Instantiations, Documentation (highlighted with a red circle), Projects, Hardware, Model, Planning, Requirement, Software, Standard, Test, and Tool.

Support

Funding for this initiative is provided by the US Army CCDC Ground Vehicle Systems Center in collaboration with NAMC



ACCESSING ROSM RTK



1. Request ROSM RTK by sending an email to support@rosmilitary.org with the subject RTK Access. Make sure to indicate the reason for requesting access in the email.
2. Request is evaluated by GVR Leadership.
3. If approved, an email will be sent to the requestor with a Software Distribution Agreement (SDA) to be filled out and returned.
4. Once the SDA is approved an email is sent instructing the requestor to request access to ROSMRTK on MITRE CoDev. (See slide 15.)
5. Once access is granted, navigate to the Getting Started Page for ROSM RTK at: <https://wiki.codev.mitre.org/display/ROSMRTK/Getting+Started>.



ACCESSING ROSM RTK SCREEN SHOT



The yearly ROS-M RTK releases are listed on the Discover Page as shown below. Select one of those to go to that releases ROS-M entry.

The screenshot shows a web interface for ROS-M. On the left is a navigation sidebar with categories like Discover, ROS, Packages, Instantiations, Documentation, Projects, Hardware, Model, Planning, Requirement, Software, Standard, Test, and Tool. The main content area is titled 'Discover' and contains a table of releases. The table has columns for Title, Type, Custodian, Link Type, Status, Distribution, and Last Updated. Four entries are visible, corresponding to ROS-M RTK 2022, 2021, 2020, and 2019. Each entry includes a brief description and a link to the release page.

Title	Type	Custodian	Link Type	Status	Distribution	Last Updated
ROS-M RTK 2022 **ROS-M RTK 2022** ROSMRTK 2022 is a significant update from 2021 including improvements to performance and stability The Robotic Technology Kernel ... RTK RTK-2022	Instantiation	timothy.j.thomas137_ctr@army.mil	Grid	Open	D	2 months ago
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Support

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ACCESSING ROSM RTK SCREEN SHOT



The screenshot shows the ROS-M RTK 2022 page. The left sidebar contains navigation options: Discover, ROS, Packages, Instantiations, Documentation, Projects, Hardware, Model, Planning, Requirement, Software, Standard, Test, and Tool. The main content area displays the ROS-M RTK 2022 title and a description: "ROSMRTK 2022 is a significant update from 2021 including improvements to performance and stability. The Robotic Technology Kernel (RTK) is a Robot Operating System (ROS)-based modular autonomy software library for S&T development that provides a set of common robotic capabilities across a variety of platforms and efforts. The RTK software library includes support for:"

- Perception - sensor drivers and algorithms that detect and interpret objects of interest from the environment
- World Model - storing and fusing data from multiple services to provide a cost map and/or list of dynamic objects and zones
- IOP Bridge - interface between the autonomy system and the operator
- Payloads - handles control, configuration, and status of various payloads
- Navigation - generates paths and speed/steering commands to guide the system
- Vehicle & Mode Management - monitors and configures both behavior and mode
- Localization - fuses data from multiple sensors to provide both relative and absolute localization
- Diagnostics - provides a means to monitor the health of the autonomy hardware
- Motion Execution - handles primitive control and status between the autonomy system and drive-by-wire system

Supported sensors include:

- GNSS
- IMU
- LIDAR
- Wheel Speed Encoders
- Gyro
- Stereo Camera
- Teleop Camera
- Data Radio
- UWB Radio
- RADAR

If you do not have access to RTK, please see the FAQ page for requesting access. For more information, select the Tutorial button on the right to be taken to the Getting Started page.

Additional Notes If you have any questions or issues please contact support@rosmilitary.org.

Buttons for RTK and RTK 2022 are visible at the bottom of the main content area.

Annotations:

- A yellow box at the top right says: "Select 'Tutorials' to go to the RTK Getting Started page." An arrow points from this box to the "Links" section on the right sidebar.
- A yellow box in the middle says: "Select 'Get Access' to go to the RTK source code." An arrow points from this box to the "Get Access" button in the "Links" section.

Right sidebar details:

- Status: INSTANTIATION
- Last Updated: 2022-11-14
- Contact: timothy.j.thomas137_ctr@army.mil
- Custodian: timothy.j.thomas137_ctr@army.mil
- Links: Get Access, Tutorial
- Maturity Level: Prototype
- TRL Level: 7: System Prototype
- Buttons: EAR, Distro.D

Footer: Sign Out, Contact Support, Funding for this initiative is provided by the US Army CCDC Ground Vehicle Systems Center in collaboration with NAMC.



REQUESTING ACCESS TO ROSM RTK



Select Help from the Profile drop down.

The screenshot shows the ROS-M RTK user interface. At the top right, the user profile is visible with the name 'TEST (TIM) TEST LAST' and 'Test Org.'. A yellow callout box with an arrow points to the profile icon, containing the text 'Select Help from the Profile drop down.' The profile dropdown menu is open, showing options: Profile, Contact Details, General Information, Email Change, Organization Change, Roles & Access, Permissions, API, SDA/MDA, Documents, CSR, Security, Password, 2-Factor Authentication, Support, Contact Support, FAQ's, and Show Site Tour. The 'Support' option is highlighted. The main content area shows 'Contact Support' with a 'CONTACT SUPPORT' button, 'Support Requests' with 'No Requests', and 'Frequently Asked Questions' with three questions: 'What is offered within the ROS-M ecosystem?', 'What is ROS-M?', and 'What is ROS?'. The footer contains 'Sign Out', 'Contact Support', and funding information.



CREATING A MITRE CODEV ACCOUNT



1. Create your MPN account:
 - Go to <https://partnership.mitre.org/mpa2/public/registration/start>
 - Enter your email address
 - Fill out the required fields then click next
 - For the Credentials field, select Password and create a password (please create a password that is less than 20 characters). **NOTE: CAC verification is an available alternative to the password option.**
 - [Put hchang@mitre.org](mailto:hchang@mitre.org) as the MITRE Point of Contact
 - Put CoDev as the Requested MITRE Resources
 - Please click the link in the email verification sent to your email
2. **This step is not required for GVSC civilians.** After creating your CoDev account, please file a visit request with MITRE to verify your US citizenship.
 - Have your security officer send an outgoing visit request with the following information:
 - Cage Code 4B080.
 - Requested Duration: 1 year from date of application
 - MITRE POC: Hannah Chang (hchang@mitre.org) 571-519-7901
 - Purpose of Visit Request: Requesting access to MITRE CoDev GVR Project(s) - [insert project key(s)]
 - If you have issues, please call the Visits2MITRE Hotline at 703-983-7777
 - Once you have created a MPN account and your visit request is verified, the MITRE Point of Contact will verify your MPN account. You will receive an email from MPN Support stating that your account is ready and that your registration is complete.
3. You must then sign into CoDev (<https://login.codev.mitre.org>) using the MITRE Partnership Accounts (MPA) button and sign in with your username and password. It is not until this point that your CoDev account is created.
4. Once your CoDev account is created, email info@rosmilitary.org requesting access to the CoDev ROSMRTK project. Make sure to include your CoDev account ID.



CREATING A BUG REPORT FOR ROSMRTK



Bug report / issue submissions are possible via ROS-M by selecting the “Bug Tracking” button for ROS-M RTK. This will open a Confluence page on CoDev to walk you through the process for submitting a Jira ticket.

The screenshot displays the ROS-M RTK 2022 page in the CoDev system. The page includes a navigation sidebar on the left with options like Discover, ROS, Packages, Instantiations, Documentation, Projects, Hardware, Model, Planning, Requirement, Software, Standard, Test, and Tool. The main content area shows the title 'ROS-M RTK 2022' and a description: 'ROS-M RTK 2022 is a significant update from 2021 including improvements to performance and stability'. Below this, it states: 'The Robotic Technology Kernel (RTK) is a Robot Operating System (ROS)-based modular autonomy software library for S&T development that provides a set of common robotic capabilities across a variety of platforms and efforts. The RTK software library includes support for:'. A list of supported sensors follows: Perception, World Model, IOP Bridge, Payloads, Navigation, Vehicle & Mode Management, Localization, Diagnostics, and Motion Execution. At the bottom, there are buttons for 'RTK' and 'RTK 2022'. The right-hand sidebar contains metadata: Status (PUBLIC), Last Updated (2022-11-14), Contact (timothy.j.thomas137.ctr@army.mil), Custodian (timothy.j.thomas137.ctr@army.mil), Links (with a bug tracking icon circled in red), Maturity Level (Prototype), and TRL Level (7: System Prototype). The footer includes 'Sign Out', 'Contact Support', and funding information.