System Requirements

ARC is efficient and runs on lower-scale PCs on Micorosft Windows 10. Efficiency does not mean we recommend low-scale PCs for complex or advanced robots, even though the software runs. Unfortunately, we cannot speak for Microsoft. Therefore, it would be out of scope for Synthiam to list all of the operating systems that Microsoft has discontinued, and therefore, Synthiam does not support them. Microsoft's only operating system for current mainstream support is Windows 10, which is why it is a worldwide understanding that "running on windows" means "runs on windows 10" since 2015.

Performance

The recommended CPU is an Intel i5 equivalent with 4GB of RAM and Windows 10 or higher. The 3D designer and 3D instruction interface will use video hardware acceleration if available.

The most significant CPU demand will be from video processing options. High-resolution and multiple video-processing tracking types are the most critical contributors to video processing CPU usage. Take this into consideration when selecting a PC.

For additional information regarding selecting a PC, visit the Getting Started guide.

Q: Does ARC work on Windows 8?

Windows 8 was discontinued for mainstream support by Microsoft on January 9th, 2019. Most ARC features will not be compatible with a discontinued operating system because it no longer receives updates from its author (Microsoft).

We advise upgrading if a computer runs an older version of Windows before Windows 10. Since Windows 10 (launched July 29th, 2015) has been the only mainstream OS supported by Microsoft and should be the only operating system you use from Microsoft. Microsoft offers a free upgrade path to Windows 10 to anyone using previous versions of windows.

- New features were not there before and therefore required to use of the new feature. ARC uses many underlying operating system features to make robot programming a positive experience. Also, ARC features involving speech recognition, synthesis, machine learning, etc., will require newer libraries installed with Windows 10.
- Bug fixes are updates that prevent the operating system or program from crashing or misbehaving. ARC's stability is dependent on the latest Windows 10 updates. Synthiam performs rigorous tests on ARC before release and is tested with the latest public updates.
- Security updates fix holes that prevent other malicious users from gaining unwanted access to your system.

Download & Install

ARC for Windows PC can be downloaded from the Products menu of this website. There are several editions that can be downloaded and installed.

[opt:downloads]

ARC Pro (*recommended*)

The Pro edition unlocks all ARC features. It allows you to create mobile apps, use unlimited speech recognition commands, access cloud storage, use high-resolution cameras for object detection, and more. This is the most popular installation of ARC because it also receives the latest updates and bug fixes.

ARC Free

Use ARC Free to try ARC with limitations.

ARC Runtime (*Free*)

The runtime edition allows loading any robot apps, whether created by free or Pro edition. This edition has no limitations to the number of robot skills, speech recognition, etc. This edition is meant to run

existing robot applications created for your robot. One noticeable difference with this edition is the lack of Add Control and Config buttons. Robot skills that require 3rd-party subscriptions or cloud services not included, such as Bing Speech Recognition, Cloud Storage, Azure Text To Speech, Cognitive Vision Recognition, etc...

ARC Mobile (Android & iOS)

The mobile edition is no longer supported for updates and bug fixes. We recommend using the new Remote UI feature. The Mobile edition of ARC was created for on-the-go remote control of robots and is, therefore, limited in functionality. It does not contain the ability to load third-party robot skills, and many built-in skills are unavailable. Review the Interface Builder robot skill manual to see what skills are available.

Go to ARC Downloads

Manage Installation

Schools or enterprise users may have the software installed on many PCs across a network. There is management software that keeps track of installations across the network. This document provides information to aid with supporting these situations.

Install From Command-line

An unattended installation command line is used to install or upgrade ARC quickly.

1) From the command line, navigate to the folder containing the downloaded ARC Installer.exe. In most cases, this might be a USB or network drive.

2) Type **"ARC Installer.exe" /quiet** and press enter.

The installer will execute the installation or upgrade procedure in the background and bypass the usual interface prompts. This makes updating or installing the ARC software quick and effortless.

Uninstall From Command-line

The WMIC application included with Windows can uninstall the software from the command line. This can be done by typing the following commands in a CMD console window with administrative privileges...

```
WMIC product where name="ARC by Synthiam" call uninstall
```

Installer Options

Some command lines can be added to the installer executable for additional automation options. To view the complete list, pass the /? parameter to the installation executable.

Product Code for Detecting Installation

If you deploy Synthiam ARC using Microsoft System Center Configuration Manager (SCCM, formerly SMS), it can be helpful to know the Product Codes (GUIDs). SCCM uses these codes to determine whether products are already installed.

ARC Product Code: *281E4CB7-6897-44DF-A347-1C28741536CF*

Uninstall ARC

There may be situations when uninstalling ARC is needed. If you are experiencing strange behaviors while using ARC, a fresh installation may be a solution. We recommend uninstalling, rebooting the PC, downloading the most recent ARC installer, and installing it. Follow these steps to perform the procedure.

1. Right-click on the start menu icon
   -

2. Select Apps and Features
   -

3. Locate Synthiam ARC in the list of installed software. Click the Synthiam ARC item.
   -

4. Select UNINSTALL
   -

5. Restart the PC. Rebooting the PC will help Windows remove any files that are in use.
   -

6. Download and install the latest ARC. Get the newest installation download from HERE. Select the version you're using, either ARC Free or Pro.
   -

Uninstall From Command-line

The WMIC application included with Windows can uninstall the software from the command line. This can be done by typing the following commands in a CMD console window with administrative privileges...

```
WMIC product where name="ARC by Synthiam" call uninstall
```

Completely Remove All ARC Stuff

To completely remove absolutely everything left behind from an ARC installation, CLICK HERE.

Folders & Registry

ARC will install itself into a folder for the application to be stored. However, folders are also used for storing user files, robot skills, 3d design files, and more. Here is a list of registries and folders that ARC creates. If you uninstall ARC, these folders and registry entries can be removed if you want a clean removal. Knowing these folders and registry locations is also helpful in understanding how ARC installs on your computer system.

Folders

- **Application Installation**

  This is the folder where the executable and required libraries will be installed.

  %ProgramFiles(x86)%\Synthiam Inc\ARC by Synthiam
  (i.e. *C:\Program Files (x86)\Synthiam Inc\ARC by Synthiam*)

- **Program Data**

  This folder contains the downloaded robot skills, example projects, and 3d printed design files

  %ProgramData%\Synthiam Inc\ARC by Synthiam
  (i.e. *C:\ProgramData\ARC*)

- **Personal Data**

  For every user, there is a personalized ARC project and configurations folder located in their My Documents folder. This allows each user to have their projects and configurations.

  (i.e. *C:\Users\\Documents\ARC*)

Registry

All configuration data in the ARC registry is stored per-user basis. This allows each user to have a unique configuration, including the color theme profile, default code editor, and other long-term settings. If you wish to remove the current ARC user information, you can view the steps [by clicking here](#).

`Computer\HKEY_CURRENT_USER\SOFTWARE\ARC by Synthiam`

Updating ARC

Periodically, ARC will be updated with new features, bug fixes, or security fixes. The three distribution channels of ARC are updated within their respective schedule.

How To Update

A message will be displayed upon loading when a new ARC Windows update is available. The message will contain information about the latest version and a few options. There is an option to automatically perform the update immediately or skip the update for a set time. Also, there is an option to view the release notes to see what new features, bug fixes, or security fixes have been included in the recent update. If the

1. Press to automatically download and update the ARC software to the latest version.
2. Select a timeframe to skip an update.
3. Once the timeframe has been selected to skip, press this button to acknowledge skipping the update for the specified period.
4. Press to view release notes about the latest update.

Delaying Update Notice

The software update message can be delayed for up to 6 months. However, if you wait for six months, there's a chance the software might break entirely if the update is dependent on a third-party resource that is out of our control. Please note that there might be other factors when selecting the delay option. Otherwise, the software may no longer work due to dependencies beyond our control. The Teams edition is only updated for a mandatorily required update.

ARC Subscription Plans & Licensing

Overview

ARC Subscription Summary

ARC undergoes continued development with new features and bug fixes to lead the robot industry. To make this possible, a subscription model compensates programmers, hardware for implementation, and web/cloud servers. We are happy to have you supporting our platform development by becoming an ARC Pro subscriber. Thank you!

ARC Editions

ARC Pro (*recommended*)

Unlock all ARC features with the Pro edition. Create mobile apps, unlimited speech recognition commands, cloud storage, high-resolution cameras for object detection, and more. This is the most popular installation of ARC because it also receives the latest updates and bug fixes.

ARC Free

Either Pro or free users can use teams & Free. The main difference between Teams and Pro is the update cycle. Most schools will choose this edition because it is updated only every 6-12 months. The downside to this edition is that it takes longer to experience fixes and new features.

ARC Runtime (*Free*)

The runtime edition allows loading any robot apps, whether created by free or Pro edition. This edition has no limitations to the number of robot skills, speech recognition, etc. This edition is meant to run existing robot applications created for your robot. One noticeable difference with this edition is the lack of Add Control and Config buttons. Your project can be loaded, and the pre-programmed functionality can be used by yourself or anyone else. Read more about ARC Runtime on this page.

ARC Mobile (Android & iOS)

This edition is no longer supported for updates and fixes. We recommend using the new Remote UI feature. The Mobile edition of ARC was created for on-the-go remote control of robots and is therefore limited in functionality. The mobile edition does not contain the ability to load 3rd party robot skills, and many built-in skills are unavailable. Review the Interface Builder robot skill manual to see what skills are available.

Go to ARC Downloads

ARC Runtime Edition

Have you finished building a robot app or want to run an existing robot app with no limitations? The runtime edition of ARC is designed for completed robots in which development is no longer required. If development is no longer necessary, then you are no longer required to need a subscription. This version of ARC runs existing projects with no limitations.

The runtime edition allows loading any robot apps, whether created by free or Pro edition. This edition has no limitations to the number of robot skills, speech recognition, etc. This edition is meant to run existing robot applications created for your robot. One noticeable difference with this edition is the lack of Add Control and Config buttons. Your project can be loaded, and the pre-programmed functionality can be used by yourself or anyone else.

Updating

The ARC Runtime edition receives the same update schedule and bug-fix priority as the ARC Pro edition.

Downloading ARC Runtime

The ARC Runtime is available for download on the ARC Downloads page. See the screenshot below that highlights the ARC Runtime edition available for download.

Limitations

ARC Runtime does not provide development interfaces for your robot project. This means you cannot add robot skills to the project. Saving and configuring robot skills is also disabled. The Blockly and Roboscratch interfaces enable you to create small programs with the existing robot skill configuration. Any robot skills that require a subscription for online services, such as Bing Speech Recognition or Vision, will still need a subscription in ARC Runtime. If you are distributing a robot to others, the available features of ARC Runtime make it possible for them to experiment with and use your robot product.

Additional ARC Editions

There are three editions of ARC available, which are documented [on this page](#).

Earn Credit

Lower The Cost of Products With Credit. Doing the right things can pay off! Synthiam is happy to offer many avenues for earning credits that will help you get your ARC Pro subscription or Synthiam Swag products at an affordable rate. Perform any or all of these achievements to receive Synthiam Credit added to your account.

[Earn Synthiam Credit](#)

Am I Locked In

You may be wondering if you build a robot with Synthiam ARC, will you have to pay a subscription fee forever to use the robot? Well, the answer is no - because that would be rude of us :). Once your robot is built and programmed, we have an edition of ARC named Runtime. You can use that edition forever to power your robot at no cost, except for 3rd party services (ie cognitive services).

Your ARC subscription can be canceled at any time. An ARC subscription will subscribe you to a recurring monthly or yearly payment plan to use unlocked features of the platform. We will email you seven days before your next billing cycle to notify you that the renewal payment will be billed automatically. You can cancel the subscription and prevent automatic billing of the subscription schedule.

As a recap, you only need an ARC subscription to program/edit/create robot projects. Once your robot project is complete, cancel your ARC subscription and install the ARC Runtime edition. The ARC Runtime edition will run any robot project in read-only mode. ARC Runtime edition allows your robot to live on forever!

[Go to ARC Downloads to get ARC Runtime](#)

Terminology

Definition of terms that are mentioned in the ARC licensing system:

Subscription - A per-seat license model with a monthly/annual payment to unlock all features of the ARC Software.

Seat (license) - The number of available seats within a subscription. Each seat is specific to a PC and can be managed on the subscription account page.

Associated Account - Additional Synthiam accounts can share your Subscription and assign your seats to their computers. You can view what account the seats have been assigned to on the subscription account page.

Premium Support - Direct access to ARC robot support experts to solve your programming challenge. Your tickets are given priority attention.

Payment

The payment screen has two options for payment. Using #1 & #2 highlighted above, you can enter the credit card or visa debit card details. Option #3 allows additional payment options directly through our financial provider.

Please note: to use Apple Pay or Google Pay, you must log in and use one of those devices during checkout. The device is connected to the payment system, and therefore you checkout in a web browser on that device.

The Check-out Process

1) Visit the [ARC product](#) page.

2) Click the View Plans button to view ARC Pro subscription plans.

3) Select the duration of the subscription plan. Note that there's a 10% discount for an annual subscription.

4) Select how many seats (licenses) you would like for your ARC subscription. The default pricing is for 2. That means ARC will be able to run on two different machines simultaneously.

5) Click the "continue to purchase" button.

6) Login or Register a new account.

6) Select your payment method (*PayPal, Apple Pay, Microsoft Pay, Google Pay, or Credit Card*).

7) Checkout.

8) Enjoy the benefits of your ARC Pro subscription!

*Note: Once the payment is processed, the Subscription may take up to 5 minutes before ARC can authenticate. Additionally, the "Pro Member" community status label may take up to 1 hour to update.

Activate PC (assign seat)

ARC Pro subscriptions are assigned to computers and are called Seat Licensing. When loading ARC Pro on a computer for the first time, you will be prompted to activate a seat for that particular computer. Press the "activate" button and a seat license will be applied to the computer.

Managing Seats

View your subscription portal by pressing the Account option in the top right, and selecting Subscriptions from the menu. Here, you can view your subscription activity and manage seats assigned to the license. The name of each computer is displayed. Pressing the Revoke button will remove the computer from the license.

Manage Subscription

Use the subscription portal under your account settings to manage your ARC subscription on the website.

Your subscription

You are a Pro user!

Within ARC, you can manage ARC subscriptions using the Help tab in ARC and click the "Manage Subscription" button.

From the subscription portal, you can manage several things:
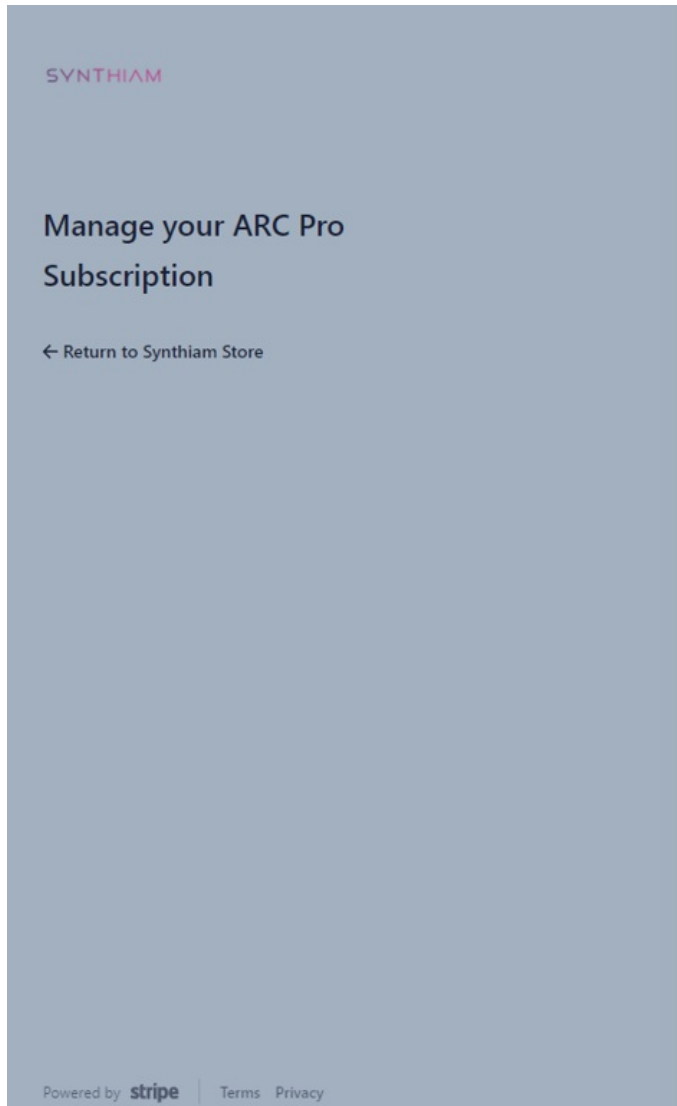

1. Your Subscription Plan
Your Subscription plan will show you how many seats you have subscribed to under your account. Your

plan is always adjustable (via the Product page) if you want to add or remove the maximum number of seats from your Subscription.

2. View invoices or change payment info Button
This button will take you to your billing page.

Here you can see the plans you have subscribed to, view your payment methods (+ add a new payment method), and view your billing history.

4. Add Associated Account Button

This button will allow you to add other people or other email addresses as associated accounts to use your subscription seats.

5. Remove Associated Account Button(s)
These buttons will allow you to remove associated accounts from your Subscription. This will terminate the access of these accounts to your Subscription.

6. Release Seat Token Button(s)
These buttons will allow you to remove a seat token that your account or an associated account has activated. Each claimed token will take an available subscription seat.

7. Change Seats or Plan Link
This link will take you to the Plan page to change your Subscription. You can upgrade or downgrade your plan and add/remove seats as well. ***Note:** All changes will affect your billing on a prorated basis.

8. Cancel Subscription
This link will take you to the Cancellation page to allow you to cancel your Subscription. If you are considering cancellation, don't hesitate to contact us before you go.

Activating & License Cache

Force Activate Subscription

If using ARC Teams, you can force a subscription update. Otherwise, you will not be prompted for a subscription until a project is loaded that exceeds the Free edition requirements. By doing this, it will remove the upgrade advertising banners.

☐

License Cache

ARC stores a local subscription license cache on the file system, so you may load the software without an internet connection. The cache license file is valid for 14 days before requiring renewal. The ARC option preference "*Enable Auto Subscription Refresh*" is enabled by default, which refreshes the local cache every hour when an internet connection is available. Use the "*Refresh Subscription Cache*" button to force refreshing to ensure your ARC local subscription cache is updated. Moving the subscription cache to update is helpful in preparation before using a robot without an internet connection for an extended period. However, if a computer will never have internet connectivity, consider using the ARC Runtime edition.

The subscription cache will be automatically updated when there is an internet connection. The ARC "Enable Auto Subscription Refresh" option is enabled by default. To change this setting, visit the Options -> Preferences menu.

☐

Learn More About ARC Editions

There are occasions when an internet connection is not available for some users. Using ARC without an internet connection will depend on the type of EZB used with ARC. Some EZB's, such as EZ-Robot EZB controllers, support WiFi connectivity. A computer with a single WiFi adapter may not have an internet connection when connected to the EZ-Robot controller. If using a WiFi EZB, consider adding a second USB WiFi adapter or ethernet internet connectivity. Many Robot Skills also require internet connectivity. Controllers that support USB, such as Arduino, do not need a WiFi adapter and maintain the PC's internet connectivity.

View ARC Compatible EZB Controllers

COPPA Compliance

You have joined the most incredible robot software platform & community. The Synthiam community is supportive and friendly to grow and share. You may use the Synthiam Community and Cloud Services in compliance with terms and applicable laws. Synthiam is committed to protecting the privacy and safety of all users. This makes Synthiam's platform a trustworthy resource for home, business, or educational use.

Why Synthiam ARC For Your School

Education Use

Synthiam is the most popular robot software for education. Being used by schools in over 80 countries, Synthiam takes user privacy seriously. We allow users to decide what features enable community and cloud service access based on privacy and age. The option to enable Synthiam Services is determined by age and privacy for COPPA compliance. This limits what information a user can create on the platform for public viewing. In addition, the only data collected by Synthiam's platform are software crash and debug reports, which do not contain any personal information. Any other information stored on Synthiam's platform would have to be user-submitted, which takes action from a user to enable Community access, agreeing to be 13 or older, and manually posting content on the community forum.

Sample Email

When a new user account is created through the website, ARC, or mobile app, there are two options for enabling interaction with the Synthiam platform. These options are emailed to the registered email account to decide how you will use the Synthiam platform.

☐

Choose Option

The two options to use Synthiam Services depend on your age or privacy for [COPPA](#) compliance.

1. For those who are 12 years old or under
   Activate only cloud services.
   Cloud Access does not give you forum access to post or share public content. Your account will be limited to cloud services for saving ARC projects, history of saved ARC projects, and cognitive services. The cognitive services features allow your robot to understand vision, emotion, decipher printed text, and speech recognition. Click the cloud services activation link to use Synthiam ARC cloud features without community access.

2. For those who are 13 years old or over
   Activate cloud services and community access.
   This gives you access to cloud services and forum to post and share public content. Access to the community by anyone under the age of 13 is prohibited. Enabling community access allows you to ask questions on the forum, earn community credits toward ARC Pro subscriptions and merchandise, create robot skills, share robot projects, and access cloud services. The Synthiam community forum is a place for enthusiasts to help each other, share robot projects and discuss robot building techniques. Do not click the community activation link if you do not qualify or agree to the Synthiam community requirements and terms.

Education Purchase Information

There may be grants and programs with your ministry for STEM purchases as an educational institution. Some grants may require applications to be completed to qualify. Synthiam has trained staff to work with your team to participate in grant writing to help reduce ARC Subscription costs. In addition, some schools require a product presentation to demonstrate capabilities to the decision-makers. Synthiam is always excited to provide demos of our software and its educational value in robot and programming literacy.

[Why Synthiam ARC For Your School](#)

Volume License Discounts

Synthiam is the most popular robot software platform, and we want to ensure your students learn the best robotics and programming literacy. Our team will work with you to arrange a volume license that fits your budget. If you are considering an ARC volume subscription, we will provide you with a trial and assign an associate to understand your requirements for volume usage.

Synthiam Makes Teaching Robotics Easy

Robotics is a vast industry involving AI/ML, electronics, programming, engineering mathematics, physics, and human interface design. We understand how overwhelming it is to teach robotics without knowing where to start. Because robotics is an emerging industry, we recognize that people traditionally struggle to learn robotics by locating examples and online tutorials. Additionally, many internet examples are application/hardware-specific and require prior knowledge about dependencies that may be out of scope for your educational outcomes.

However, to ensure the most significant success from Synthiam's education partners, we assign an associate to understand your needs. Hence, examples and tutorials are easily attainable to avoid disrupting our education activities.

For example, you may require samples of implementing a navigation solution as a volume subscription partner. Your Synthiam associate will locate the documentation and tutorials on Synthiam's website. Our team occasionally creates one if tutorials do not exist because our content is influenced by maintaining a relationship with users.

If you'd like to speak with an associate, let us know, and we'll help you accelerate your organization's STEM & robotics courses.

[Contact Us](#)

W9 Forms

Synthiam is a Canadian federal corporation and cannot provide W9 US tax forms. ([read more](#))

W-8BEN-E

You can download Synthiam's completed W-8BEN-E form [here](#).

How Can We Help?

Let us know how we can help put Synthiam ARC in your classroom or school. We can participate in grant writing, provide demos to decision-makers, and arrange volume license discounts.

[Contact Us](#)

What kind of robot do you want to teach with?

Working with Synthiam provides access to our 300+ technology and robot partners. Your assigned associate will be the only contact needed for advice on products that fit your educational outcomes and how to purchase at volume.

1. Use a Robot Product

Skill Level: *Beginner, Intermediate*

ARC will let you program a pre-built robot product or a kit. This option lets you program a robot directly out of the box with little effort. Here are a few popular robot ARC-compatible products. Select a robot product to view information, purchase links, and manuals.

[opt:hardware:2]

2. Make a DIY Robot

Skill Level: *Advanced*

Making a DIY robot has traditionally been a daunting task. Synthiam shines for helping you make DIY robots with the most accessible robot software that anyone can use. Even better is that our ARC software supports using several popular hardware options, allowing more time to focus on innovative features for your robot.

We have created a step-by-step Getting Started Guide to make a DIY robot - press the button and get started!

[Make a DIY Robot](#)

Education & School Benefits

In today's rapidly evolving technological landscape, it is imperative that educational institutions equip students with the skills and knowledge needed to thrive in the digital age. Synthiam ARC (Advanced Robotic Controller) emerges as a powerful tool for educators, providing an engaging and accessible platform for teaching robotics, programming, and automation. This paper explores the benefits of integrating Synthiam ARC into educational settings, highlighting its versatility, ease of use, and educational potential.

1. # Introduction

The 21st century has witnessed a profound transformation in the way we live and work, driven by advancements in technology. To prepare students for the challenges and opportunities of the future, educational institutions must embrace innovative tools and methods. Synthiam ARC stands out as a comprehensive robotics and automation platform that can play a pivotal role in enhancing educational outcomes.

2. # Accessibility and Ease of Use

One of the key strengths of Synthiam ARC in an educational context is its accessibility and ease of use. The platform is designed to cater to learners of all levels, from beginners to advanced users. Its intuitive drag-and-drop interface allows students to create complex robotic programs without requiring extensive coding skills. This user-friendly approach lowers barriers to entry and makes robotics and automation accessible to a broader audience.

3. # Versatility

Synthiam ARC supports a wide range of hardware platforms, including popular robots like the Robotis, EZ-Robot Revolution and many Arduino-based devices. This versatility enables educators to choose hardware that suits their budget and curriculum while maintaining a consistent software platform. This adaptability ensures that Synthiam ARC can seamlessly integrate into various educational settings.

4. # Interdisciplinary Learning

Education today is increasingly interdisciplinary, emphasizing the importance of integrating STEM (Science, Technology, Engineering, and Mathematics) subjects. Synthiam ARC's interdisciplinary nature aligns well with modern educational goals. It allows students to explore various subjects simultaneously, including robotics, programming, electronics, and even design. This multidisciplinary approach fosters a holistic understanding of technology and its real-world applications.

5. # Engaging and Interactive Learning

Synthiam ARC excels in engaging students through hands-on learning experiences. Its robot simulation capabilities enable learners to test and refine their programs virtually before deploying them on physical robots. This approach encourages experimentation and problem-solving, fostering a growth mindset among students. The platform also supports real-time remote control and monitoring of robots, enabling collaborative projects and competitions within the classroom.

6. # Real-World Relevance

The skills acquired through Synthiam ARC are highly applicable to the real world. Automation and robotics are integral to various industries, including manufacturing, healthcare, and logistics. Educating students in these domains prepares them for careers in fields that will continue to grow in demand.

7. # Community and Support

Synthiam ARC boasts an active and supportive community of educators, developers, and enthusiasts. This community provides valuable resources, tutorials, and forums for sharing ideas and troubleshooting. Educational institutions can leverage this network to further enhance their robotics and automation programs.

8. ## Conclusion

Synthiam ARC is a valuable asset for education and schools, offering a user-friendly and versatile platform for teaching robotics, programming, and automation. Its accessibility, versatility, and emphasis on hands-on learning make it an ideal choice for educators seeking to prepare students for the challenges and opportunities of the digital age. By integrating Synthiam ARC into educational curricula, institutions can empower students with the skills and knowledge they need to excel in an increasingly technology-driven world.

[Get Synthiam ARC for your school](#)

Synthiam is a trailblazer of technology

As pioneers in robotics, Synthiam has introduced groundbreaking technologies and features that have revolutionized how we build, program, and interact with robots. This white paper explores the innovative contributions of these leaders in robotics.

Trailblazing Robot Controllers: EZ-B v3 and EZ-B v4

The introduction of the EZ-B v3 and EZ-B v4 robot controllers marked a significant milestone in making robotics more accessible. These controllers simplified the process of connecting various robotic components, setting a new standard for ease of use in robotic hardware.

Empowering Creativity with ARC Software

Synthiam's ARC (Autonomous Robot Control) software has transformed the landscape of robot programming with its user-friendly graphical interface and extensive library of robot skills. Key features include:

- Modular Robot Skills that can be easily added to enhance robot capabilities.
- Scripting across skills with `ControlCommand()` to facilitate complex interactions and behaviors.
- A Robot Skill Store, allowing users to share and discover new functionalities.
- Graphical 3D Robot Designer for intuitive design and planning of robot structures.
- Compatibility with multiple robot controllers, enabling the creation of sophisticated robotic systems.

Advancing Robotics with High-Level Technologies

One of the key innovations of Synthiam's ARC platform is offloading CPU-intensive tasks such as vision and speech recognition to the PC. This approach allows robots to perform advanced functions without the need for powerful onboard computing resources, democratizing access to cutting-edge technologies.

Community-Driven Innovation

Synthiam has fostered a vibrant community of robotics enthusiasts by providing platforms for the creation and sharing of robot skills and apps:

- Users can develop Robot Skills as plugins and publish them to the Robot Skill Store, contributing to an ever-expanding ecosystem.
- The ARC platform includes a Robot App Store, enabling users to share their creations and leverage the collective ingenuity of the community.

Through these contributions, Synthiam has advanced the field of robotics and created a global community of innovators, educators, and hobbyists passionate about exploring the possibilities of robotics.