T-IA Connect

EDUCATION

Classroom and Education Guide

Teach Siemens TIA Portal with a live view of every student's project

WHAT CLASSROOM BRINGS TO AN AUTOMATION LAB

- Sessions and admission
- Live view of every project
- Program review
- Commands on student projects
- Communication and follow-up
- Security and IT administration

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CONTENTS

Inside this guide

	What Classroom is		3
01	Sessions and admission The teacher opens a session; students find it and ask to join.	CLASSROOM	4
02	Live view of every project Read each student's TIA Portal project from the teacher's desk.	SUPERVISION	5
03	Program review Open any block of a student and read its logic.	TEACHING	6
04	Commands on student projects Compile and save a student's project, or compile the whole class.	TEACHING	7
05	Communication and follow-up Chat, class messages and pinned instructions, with full transparency.	CLASS MANAGEMENT	8
06	Security and IT administration Designed to be accepted by a school IT department.	IT AND SECURITY	9
	More teacher screens		10
	The school journey (being finalised)		11
	Education offer (in preparation)		12

Status of each part

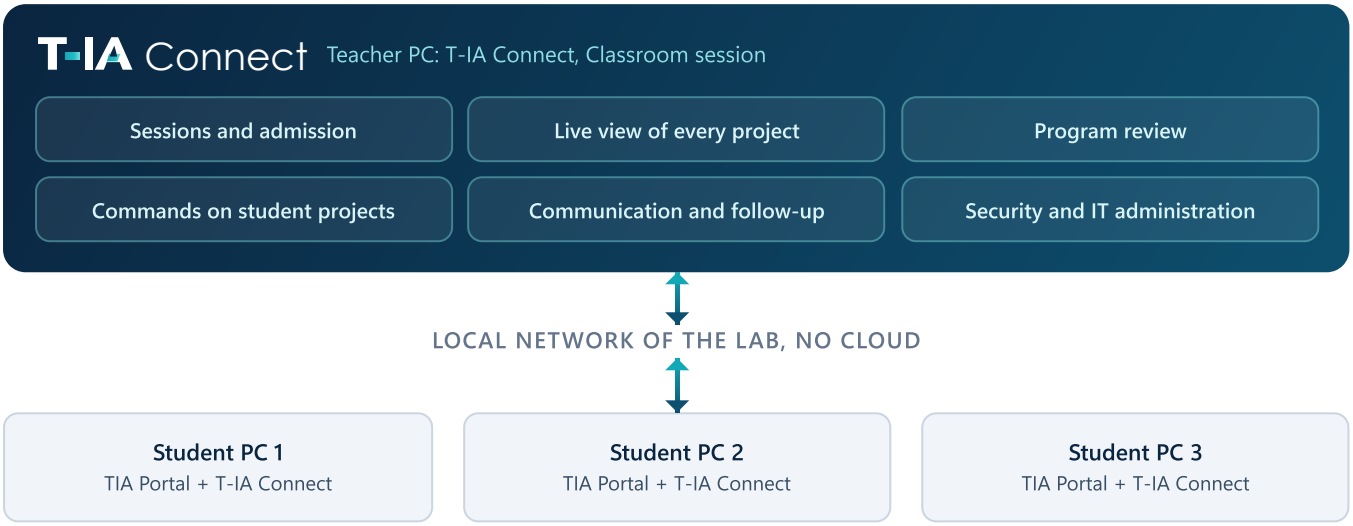
Classroom itself is available in T-IA Connect. The licensing journey for schools and the education offer are being finalised and are presented as designed.

1. **Available**
   Classroom sessions, views, commands, communication, security, class codes and free student keys
2. **Being finalised**
   school journey: organisation, teacher licences, lab PC installation
3. **In preparation**
   education offer for teachers, universities and training centres

OVERVIEW

What Classroom is

Classroom turns a room of PCs running TIA Portal into a connected class. The teacher sees and checks every student's project from one screen, while students keep working in TIA Portal as usual.



WHO DOES WHAT

ROLE	WHAT THEY DO	WHAT THEY NEED
Teacher	Opens sessions, admits students, reads and compiles their projects, chats with the class.	Teacher licence
Student	Joins a session with the code, works in TIA Portal, sees the teacher's actions.	Student licence
School IT	Installs T-IA Connect on lab PCs and can set a machine policy.	No licence needed

> Classroom runs entirely on the school's local network. The teacher acts on the students' TIA Portal projects only, never on the PCs themselves.

01 CLASSROOM

Sessions and admission

The teacher opens a session; students find it and ask to join.

The teacher starts a Classroom session from T-IA Connect on the teacher PC. The session shows a six-digit code and the fingerprint of the teacher's identity. Students on the same local network find the teacher automatically, enter the code and send a request to join. Nobody enters the class without the teacher's approval.

WHAT IT ALLOWS

- Open a session for a lab room in a few seconds
- Renew the session code at any time
- Admit students one by one, or all at once
- Let students check they join the right teacher

HOW IT WORKS

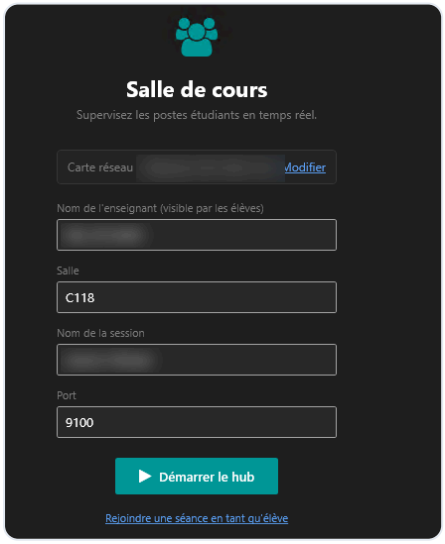
1. The teacher enters a name, the room and the session name, then starts the session.
2. T-IA Connect shows the session code and the teacher fingerprint.
3. Each student opens Classroom, picks the teacher found on the network and enters the code.
4. The teacher accepts or refuses each request; accepted stations appear in the class list.

Prerequisites

- T-IA Connect on the teacher PC and on each student PC.
- All PCs on the same local network, on a private or domain network profile.

Limitations

- Local network only: no cloud relay. A student can also type the teacher address.
- The session ends when the teacher stops it.



Opening a session on the teacher PC: network card, teacher name, room and session name (names blurred). Teacher screen shown with the French interface. T-IA Connect is available in 14 languages.

02 SUPERVISION

Live view of every project

Read each student's TIA Portal project from the teacher's desk.

For each connected station, the teacher reads the student's open TIA Portal project without walking to the PC: devices and network, program blocks, PLC tags, tag tables, user data types, CPU properties and a project summary. Results are shown as clean cards and tables, never as raw data.

WHAT IT ALLOWS

- Check that each student configured the right CPU
- Compare blocks, tags and data types across the class
- Spot a wrong IP address or protection setting at a glance
- Follow the progress of a practical exercise

HOW IT WORKS

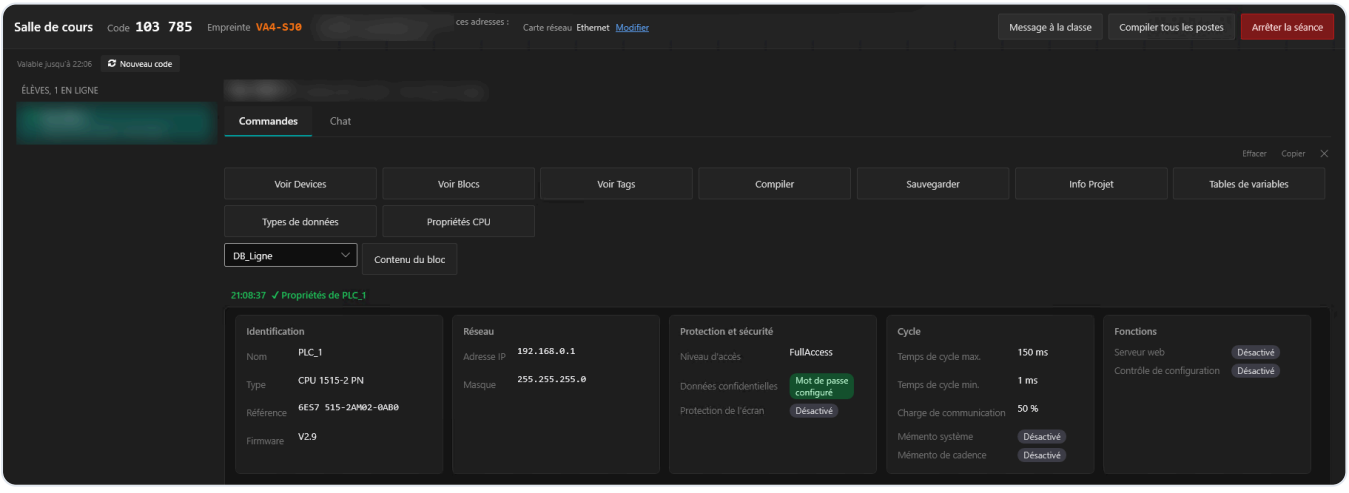
1. Select a student in the class list.
2. Choose a view: devices, blocks, tags, tag tables, data types, CPU properties or project info.
3. Read the result in the teacher panel; filter long tag lists by name, address or comment.
4. Switch to another student; the view always follows the project open on that station.

Prerequisites

- A TIA Portal project open on the student PC, through T-IA Connect.

Limitations

- HMI screens are not shown yet (planned).
- Reading a large project can take a few seconds per view.



CPU properties of a student's PLC: identification, network, protection, cycle and functions. Teacher screen shown with the French interface. T-IA Connect is available in 14 languages.

03 TEACHING

Program review

Open any block of a student and read its logic.

The teacher selects a block of the student's program and opens its content: the block interface and its code. SCL and STL code is shown as text, LAD and FBD networks are drawn read-only as in the block editor, and GRAPH sequences are listed with their steps, actions and transitions.

WHAT IT ALLOWS

- Review an exercise without touching the student's PC
- Compare two solutions of the same exercise
- Explain a mistake while the student keeps working
- Prepare feedback before an assessment

HOW IT WORKS

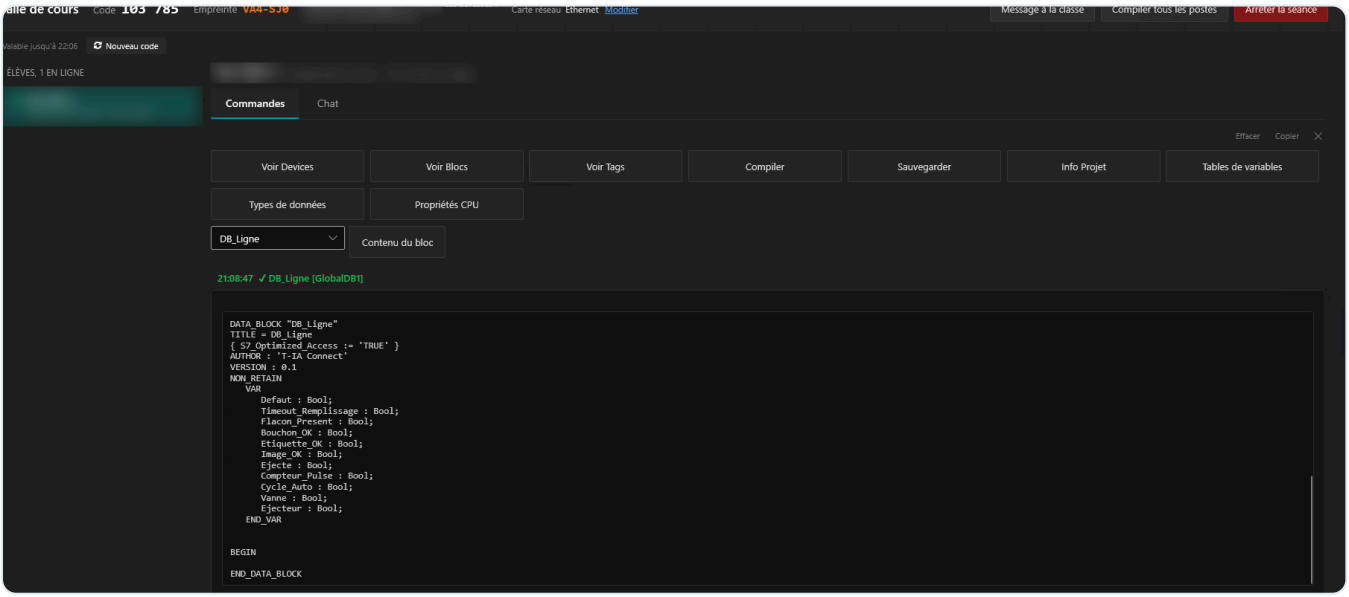
1. Select the student, then a block in the block list.
2. Open the block content.
3. Read the interface, then the code, networks or sequence.
4. Use the chat to send a remark to the student.

Prerequisites

- The block must be readable in the student's project (not know-how protected).

Limitations

- The teacher view is read-only for block content.
- Very large LAD or FBD blocks show their first 50 networks.



Content of a student's data block, read from the teacher PC. Teacher screen shown with the French interface. T-IA Connect is available in 14 languages.

Commands on student projects

Compile and save a student's project, or compile the whole class.

Beyond reading, the teacher can act on the student's TIA Portal project: compile it, compile a single block, save it, or compile every station of the class in one action and see which projects build and which fail. Compilation errors come back as readable messages, so the teacher sees immediately where each student is blocked.

WHAT IT ALLOWS

- Check that every project compiles at the end of a lab
- Find the stations that need help first
- Save students' work before the session ends
- Run the same check on the whole class in one click

HOW IT WORKS

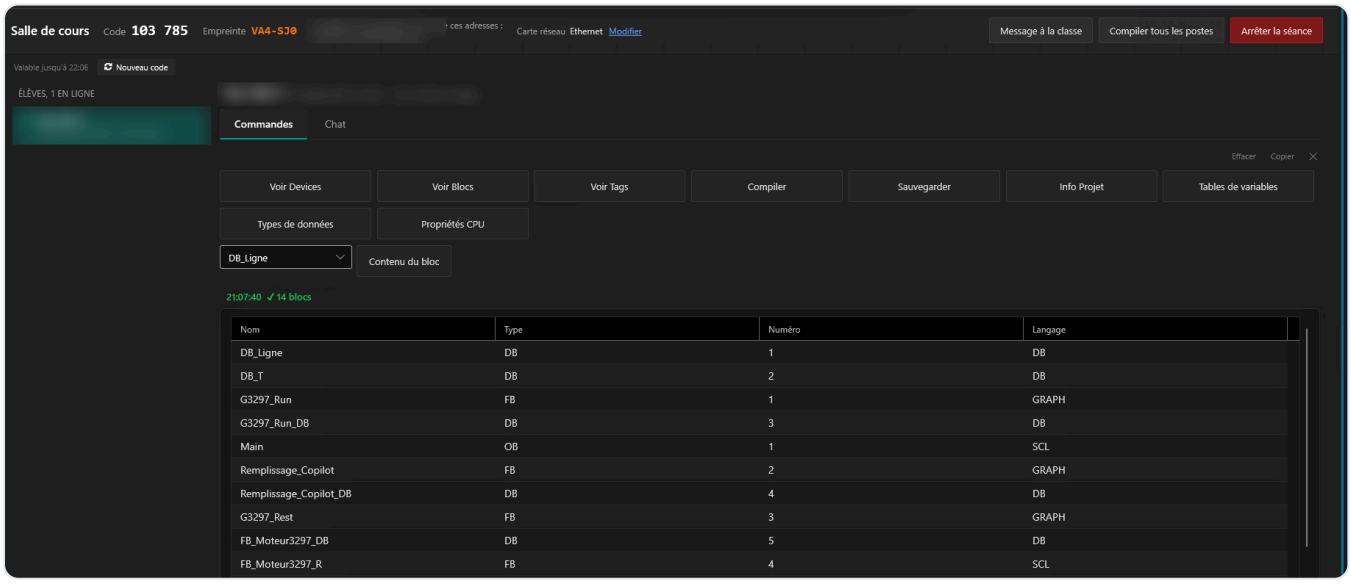
1. Select a student, then Compile or Save.
2. Or use Compile all stations from the session header.
3. Read the result of each station in the class list.
4. Open the failing project to review the faulty block.

Prerequisites

- A project open and ready on each student station.

Limitations

- The teacher acts on the student's TIA project only, never on the PC itself.
- Download to a physical PLC is not part of Classroom.



Block list of a student's project, with the teacher commands above it. Teacher screen shown with the French interface. T-IA Connect is available in 14 languages.

05 CLASS MANAGEMENT

Communication and follow-up

Chat, class messages and pinned instructions, with full transparency.

Classroom includes a private chat with each student, messages to the whole class and a pinned instruction that stays visible on every student screen. Every command run by the teacher on a station is recorded and shown to the student, so the class always knows what the teacher did on its project.

WHAT IT ALLOWS

- Answer a question without interrupting the class
- Keep the exercise statement pinned during the lab
- Announce the next step of an exercise to everyone
- Show students exactly what the teacher looked at

HOW IT WORKS

1. Open the Chat tab of a student to talk privately.
2. Use Message to the class for an announcement.
3. Pin an instruction; remove it when the step is over.
4. Students see the teacher's actions on their project as they happen.

Prerequisites

- An open session with admitted students.

Limitations

- Chat history belongs to the session; it is not a messaging service outside class.

Security and IT administration

Designed to be accepted by a school IT department.

Classroom works on the local network only, with no cloud service in the middle. Exchanges between teacher and students are signed, and each student remembers the teacher's identity. The teacher has full rights on the student's TIA Portal project and none on the PC: no files, settings, secrets or licence. Roles come from the licence itself: only a teacher licence can open a session.

WHAT IT ALLOWS

- Deploy on lab PCs with the installer's firewall rules
- Keep student PCs closed to anything outside the TIA project
- Fix the role, room or teacher address centrally with a machine policy file
- Avoid exposure on public networks

HOW IT WORKS

1. IT installs T-IA Connect; the installer adds the Classroom firewall rules for private and domain networks.
2. Optionally, IT writes a machine policy (role, room, fallback teacher address, maximum profile).
3. The teacher chooses the network card used for the class; T-IA Connect never changes firewall or network settings.
4. On a public network, the teacher is not announced and a clear message explains why.

Prerequisites

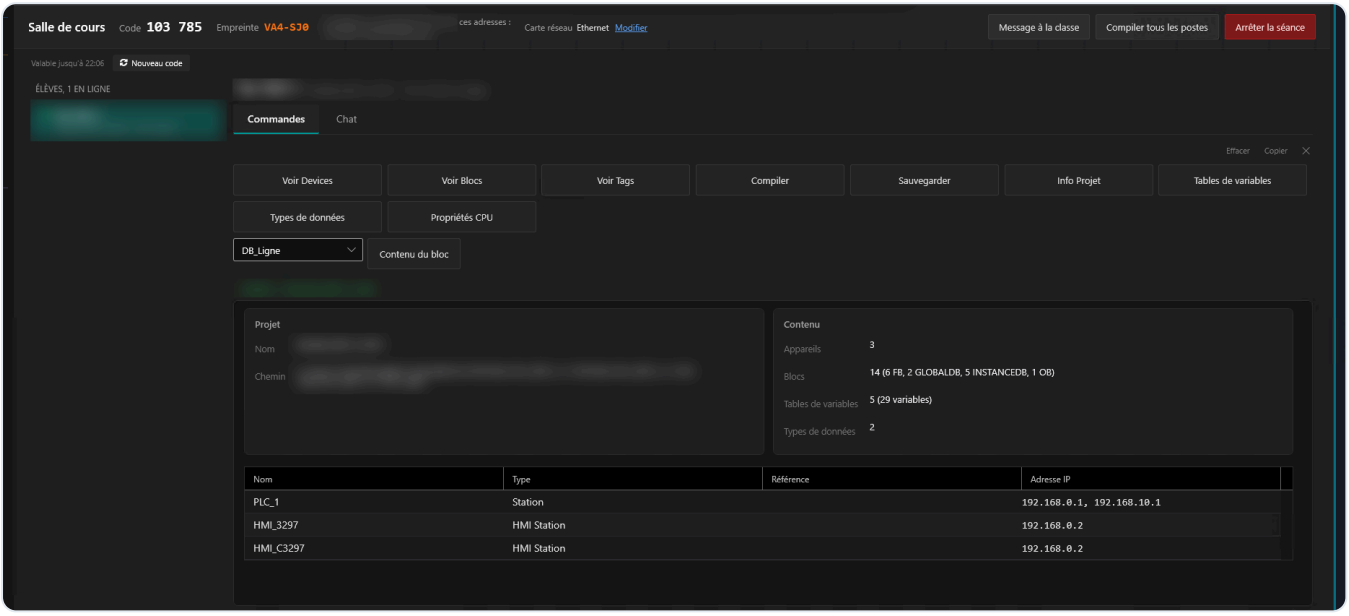
- Administrator rights only for installation.
- Network profile set to private or domain on lab PCs.

⚠ Limitations

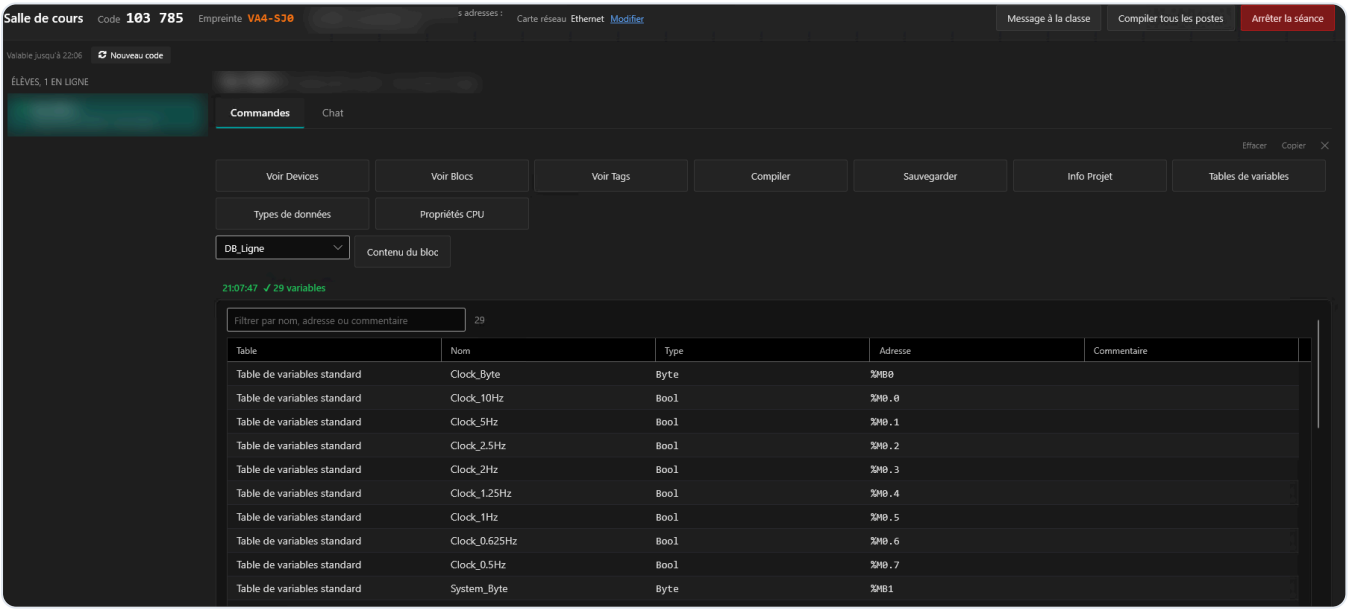
- Classroom does not replace the school's own network and account policies.

More teacher screens

A few more views of the teacher screen, captured during an internal test session with a TIA Portal V21 project. Teacher screen shown with the French interface. T-IA Connect is available in 14 languages.



Project summary of a student: devices, blocks, tag tables and data types, with the device network table.



All PLC tags of a student's project, with a filter by name, address or comment.

EDUCATION BEING FINALISED

The school journey

This is how schools will equip teachers and students. The Classroom part already works; the account and licence steps below are being finalised and may still change in detail.

1 **The school equips its teachers**
Automation teachers who use TIA Portal in class receive a teacher licence.

2 **Lab PCs are installed once**
T-IA Connect is installed on as many lab PCs as needed, with no limit on the number of PCs.

3 **The teacher creates a class code**
From the online dashboard, the teacher creates a code valid for the number of students in the group, for example 15.

4 **Each student gets a free key**
The student creates an account, enters the class code in the dashboard and receives a free student key valid for one year.

5 **Students sign in on any lab PC**
A lab PC stays locked until a student signs in with a personal account; it signs out automatically after a period of inactivity.

6 **The class starts**
The teacher opens a Classroom session; students join it with the session code shown by the teacher.

EDUCATION IN PREPARATION

Education offer

An offer dedicated to education is in preparation. It will be presented to each interested teacher, university or training centre directly.

1 **Teacher licences**
For automation teachers and trainers who want to use TIA Portal with T-IA Connect in their courses: Classroom teacher role and the T-IA Connect engineering features.

2 **Organisation offer**
For universities, schools and training centres: the organisation, its teachers or trainers and their students in one place.

3 **Free student keys**
With the organisation offer, students and trainees receive free keys valid for one year, created through class codes generated by their teachers or trainers.

Interested?

Teachers, universities and training centres who want to use T-IA Connect in their automation courses or training sessions can contact us. We will present the offer and help prepare a first lab session.

T-IA Connect

AI and automation for Siemens TIA Portal

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